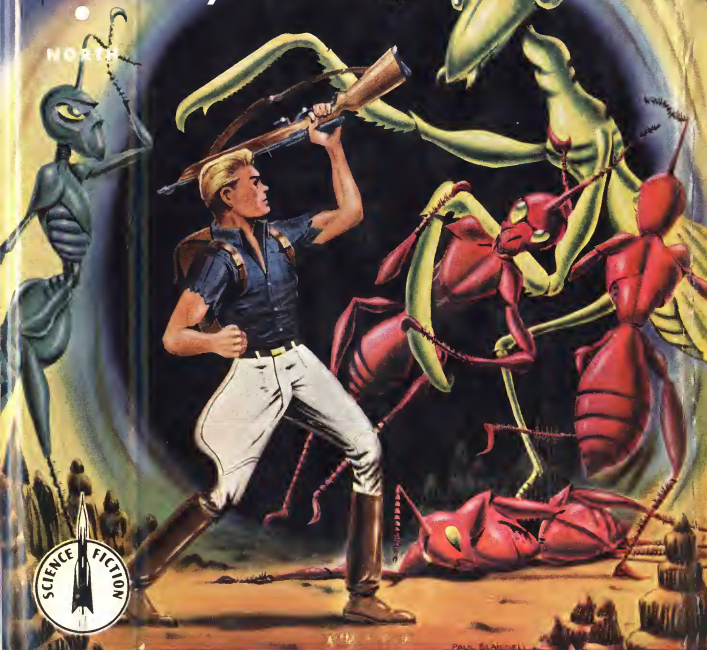


THE
ANT
MEN

The Ant Men

By ERIC NORTH

NORTH



WINSTON

A SCIENCE FICTION NOVEL

The Ant Men

By ERIC NORTH

Jack illustration by Paul Blaisdell

"There's a feeling about this desert which frankly suggests . . . impossible things. That's the only way I can put it."

The feeling that Professor Silas Orcutt, an American geologist, refers to early in this story, is one that every reader of this rugged and thrilling science fiction novel will share with him after the very first page. The professor, head of a party of five studying geological formations in the Central Australian desert, thought back on the nightmare of shifting sand and crackling electrical charges that had wrecked the truck in which his party was traveling. He thought, too, of the skeleton of a freshly killed crocodile—found hundreds of miles from the nearest river—and the stench of formic acid that remained around its picked-clean bones.

The professor's intrepid little group was prepared to find fossils in the Australian rock strata—but not the living kind that shocked them into believing the impossible of the burnt-out lands of the continent down under. Trapped in a desert valley under the pitiless sun, the five found themselves face to face with six-foot-tall ants and deadly giant mantises: survivors from before the dawn of history. Locked in a harrowing war for survival, these deadly creatures had little use for the puny men who found themselves in the midst of an insect war!

How Professor Orcutt was captured by ants with curiously manlike characteristics; how the members of his party found him and investigated the huge underground ant city; how they helped defend the ant men's ghostly underground caverns make this a completely gripping novel capped with a taut and electrifying climax sure to please readers of every age.

THE JOHN C. WINSTON COMPANY
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The Author

ERIC NORTH took the background for *THE ANT MEN* straight from the Central Australian deserts as he knows them. And he knows them well. For this author has lived "down under" ever since he was six and has visited every state in the Australian Commonwealth except Queensland. He has explored Central Australia, was lost twice—once in the timber country and once in the desert he so vividly describes. His adventures, which Mr. North regards as "mild," include having his horse lost in quicksand, hornings by wild cattle, being trapped by falling timber and narrow escapes from forest fires. With this background it is little wonder that his many books, which have been published in the United States, Australia and Great Britain, always receive an enthusiastic reception.

The Editors

CECILE MATSCHAT, editor of the Winston Science Fiction series, is recognized as one of this country's most skilful writers and editors. She has sixteen books to her credit, including the highly praised *Savannah River* in the "Rivers of America" series. Nationally known as a lecturer, an artist of great ability, Cecile Matschat is also an expert historian. With this varied background, she is perfectly suited to select top science fiction authors and books to make this a balanced and well-rounded series.

CARL CARMER, consulting editor, holds an outstanding position in the literary world. Author of *Stars Fell on Alabama*, he now edits the popular "Rivers of America" series. Other of his books are *Genesee Fever*, *Listen for a Lonesome Drum*, and *Windfall Fiddle*.

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A Science Fantasy Novel

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Cecile Matschat, Editor

Carl Carmer, Consulting Editor

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Living Fossils

THE AUTHOR makes no apology for his conception of past aeons of creative impulse. The continent of Australia is widely known to scientists for its possession of a great number of what we may term "living fossils" in both animal and plant life. Fossils of the kind are to be found elsewhere, of course, but Australia is pre-eminently their historical home. Everything that has been discarded or at least forced into the darkest corners elsewhere apparently survives in or near Australia. We have only to instance the marsupials—the kangaroos, wallabies, koala bears, and so forth—to realize the truth of this. Practically all Australian native animals, with the exception of the native dog or dingo, are living fossils. They do not belong to our times at all; they rightly belong to a period going back thousands of years. So with many of the Australian plants: the zamia palms, the niggerheads, the cycads. They have survived from Cretaceous times. The same, also, even with some Australian fish. Only a short time ago, the world of science was greatly interested in the discovery on the Burnett River in Queensland of a fish known as "barramundi"; a primitive fish which should have died out a million years ago, but for some reason has survived. It dates back to the swamps of the Carboniferous period; actually a fish with two lungs, a fish somehow halted in its

progress from a sea animal to a land animal. A survival of an incredible past. A living fossil.

Of the ant species, Australia had one of the largest and fiercest known. Wherever in this story ant economy has been touched on, it has been carefully verified from latest scientific pronouncements. Australian descriptive passages, localities, and so forth, are completely accurate, and are based on the author's personal knowledge and experience.

Finally, it may be said that the remains of huge prehistoric animals have been found on the salt shores of Lake Eyre in Central Australia and in Queensland, and that vast portions of the Australian central deserts are at present "lost lands" in mankind's experience.

E. N.

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Chapter 1 Disaster

AN EXTRAORDINARY stillness seemed to brood over the sun-bitten fastnesses of the Central Australian desert, through which the big utility truck was slowly and cautiously making its way toward the mirage-like peaks and scarps of distant ranges. It was top sun, and the inverted bowl of the sky was hard and brittle as glass. It clamped down on the circle of bitter, jagged horizon like a great lid, under which the hot breath of the desert rose and fell as though it were a palpable, living thing. Over the low-lying sand hills and benches the dust swirled endlessly, contracting and expanding, building up an immense prism of fantastic movement and color which shaped and reshaped itself with incredible speed. Red sand crumbled down from the rock piles to rise again in smoking funnels that whirled over the clay pans and salt pans in writhing contours, to vanish in a blood-red haze. All about them was primeval chaos, ageless in time and space and raw with burnt-out colors, like a rainbow crumbling under the sheer weight of eternity. Not a breath of wind stirred.

"Mamma, mamma," Nugget Smith croaked, spitting the alkali scum from his dry lips. "In a place like this, you got to be as careful as a fat man on a diet."

He eased his perspiring body behind the sawing wheel of the utility and blew out his cheeks.

"How you youngsters making out?" he demanded, with a grin.

"I could do with a drink," young Bill Carey said.

"You ain't serious!" the driver said with mock surprise.

"Pull your head in, Nugget," admonished the third occupant of the utility's cabin, Tod Gray. "Bill's been reared on green pastures. He's not a bit of dried-up old leather like you."

Nugget Smith choked back a ferocious retort and gave his attention to a nest of anthills which almost blocked their path.

"Green pastures yourself," Carey said, in his soft, precise English voice. "What do you Aussies think you are, anyhow? You're only Britishers gone ragged at the pants after mixing with the boongs and bush flies for half a dozen generations."

Both youngsters were in their late teens. They were classmates at the University of Adelaide Science Research Laboratories. Carey had not been away from England long. He was a fair, tall lad, with sleepy blue eyes and a perpetual air of astonishment, as though he was never through wondering just how he came to find himself in such an outlandish place as Australia, after the orderly existence of the little north of England town from which he had graduated. He had a wide, good-humored mouth, though with a hint of quick temper at its corners. He could use his fists, as well as his head, when occasion demanded it. Many a one, taking heart from his seeming mildness, had come to give him an astonished respect after prodding him to sudden action.

Tod Gray, on the other hand, was short and stocky, with unruly black hair, and large red ears which had earned for him the nickname of Jugs. He, too, was somewhat surprising, for his easy manners and slow, drawling speech belied a very real activity, both of mind and body. When roused, he was as fierce and relentless as a Tasmanian devil.

It was sheer luck that he and Carey, close friends,

had been chosen from their class—because of their fitness, rather than their scholarship—to take part in an altogether unusual adventure, an informal semiscientific exploration of the dead heart of the Australian continent. This was organized by Professor Silas Orcutt, a distinguished member of the Smithsonian Institution in the United States, at his own expense and on his own research terms.

Professor Orcutt and his Australian assistant, Dr. Gregory Wise, senior lecturer in geology at the University of Melbourne, were riding in the back of the utility truck, with the party's rather considerable baggage. Over the frame built up from the sides of the vehicle a light tarp had been fitted as a protection against the fierce sun. The sides were rolled up, however, to give passage to whatever air there was. The two scientists sat chatting, while they compared notes on the field work of the previous day. The party was now three weeks out from Alice Springs, and were heading south by east into country unknown even to the desert old-timer, Nugget Smith. Their guide had been chosen by Professor Orcutt for his wide experience in the never-never badlands. Orcutt had sent Nugget ahead several months earlier to blaze a trail over known country and put down a cache of oil, water drums, and tinned foods, every twenty miles, once past a certain landmark, to a fifty-mile limit. They had refueled and restocked from the outermost of these caches two days back, and reckoned they were equipped now for several hard runs into the desert, then return to the nearest cache.

Professor Orcutt was well on in years. He was lean and tough as a bean pole, for most of his life had been spent in scientific adventuring in odd corners of the globe, where he had learned to take life as it came. He had an almost bald head that was now hidden under a wide Panama hat, big, bushy eyebrows, and a square,

bearded jaw which did not quite conceal his wide, clever mouth. He wore sunglasses and was dressed in a checked shirt and thin jodhpurs, the last being worn also by the rest of the party with the exception of Nugget Smith. Nugget clung to his usual disreputable pants of worn dungaree, which, he claimed, were just as good to ward off the spear grass and bitterweed and the bites of the Centralian scorpions as any fancy getup like that of his companions.

Nugget was a hard-bitten giant in his fifties, with a skin of leather and limbs as knotted as those of a corkwood tree. He was squat and broad and hairy as a nest caterpillar. He was acknowledged far and wide as one of the biggest and best liars—when it came to telling of his own prowess—the deserts had ever known. But he knew his job, and was proving just the sort of granite-based guide and driver Professor Orcutt had hoped for.

Dr. Wise was a thin-faced, keen-eyed man in his early forties. He and Orcutt, who had similar scientific interests and theories, had corresponded for years, and the present venture had been planned well in advance of Orcutt's arrival in Australia.

Their main purpose was to study the weird geological formations of the ranges of the interior and to search for a rare specimen of obsidian button of a deep purple. Obsidian is a glassy lava, a kind of extremely hard volcanic rock of many colors—mainly black. Professor Orcutt, a mineralogist of world renown, had a theory that the purple obsidian was meteoric in origin.

He was talking of this now.

"The only place where purple obsidian of this particular luster has been found so far, Wise, is in the Meteor Crater in Arizona, in the rock flour. I guess this hungry sour-land desert of yours is just the right spot to root around in for more of it."

Wise mopped his streaming face.

"Well, we've our Henbury meteoric craters. You've seen them, Orcutt." He stared out at the burning sand benches. "I don't like this deadness in the air. Could be the desert's getting on its hind legs for a first-class tornado. Smell anything?"

The professor wrinkled his nose.

"A taint of sulfur gas, maybe. This is all burnt-out country. These leftover gas pockets can last for centuries. Volcanic . . . but I guess it's not just that. The haze is sure thickening. Say, did you hear that?"

From somewhere out of the oppressive silence came a succession of dull, explosive sounds.

"Sounds like artillery fire," Bill Carey called to them, over his shoulder.

"Yeah," Jugs grinned. "Too right. What you're hearing, Bill, is our boong desert corps trying out on their secret mulga range, getting ready for the next burst with the Japanese. Didn't I tell you about them?"

Carey, who was not yet awake to when his leg was being pulled, said, "Gosh! I didn't know you had black troops . . . Listen, Jugs, another crack like that and . . ."

"Them noises," Nugget put in loftily, "is the big granites splitting with the heat. That's so, Prof, ain't it?"

Nugget had early settled in his mind that the correct way to address his principals was "Prof" and "Doc." Nothing could shift him from it. The lads he usually hailed as "youse kids," or, individually, as "Jay" and "Double-you."

"Ever seen a sky like this before, Nugget?" Orcutt asked him.

"No, Prof, I ain't. And I don't want to. It looks real 'spicious to me. Now, one time when I was up in Birdsville—I disremember the date exactly—I seen something like it, though. An electric storm, they told me it was—arterward, when I woke up in the orspittle. There was me, sitting outside the Birdsville pub one moment, and

next thing I knew I was lying stark naked on the back veranda of Old Man Potter's ranch at Birdum. Not even me socks left on me two feet. I muster shot through the air like one of these here jets. Would you believe it!"

"Speaking for myself—no," Jugs told him.

Nugget spared a moment from the wheel to glare at him.

"One of these days, young Jay, you'll be getting that sharp you'll cut yourself. Mamma, mamma! What's going on here?"

Unaccountably, the utility truck had begun to weave from side to side. Unable to hold her straight, Nugget braked to a stop, just missing a sandstone spur. He sat staring about him in an angry, puzzled way.

"It felt as if something hit us," Bill Carey said.

A sudden puff of wind scorched their faces, flattened the tops of the spinifex, and lost itself in the deathly silence. From a ledge of red cliff high overhead a blister of rock slowly opened and fell.

Dr. Wise had scrambled to the ground.

"An earth tremor, I think."

"Some kind of vertical force," Orcutt said quietly. "Yet a vertical force surely can't make things move sideways, the way this jalopy did. I'd say a kick from a real quake someplace. Engine okay, Nugget?"

Nugget had recovered from his amazement.

"Sweet as can be, Prof." He scowled at the dubious looks of the two lads. "Maybe youse kids got something funny to say about my driving, huh?"

They were discreetly silent.

"Mamma, mamma," Nugget grumbled. "Ain't I got enough jerking this bus along without taking a kick in the pants from one of nature's stomach ulcers! Sure, sure it was an earthquake. I said that, didn't I?"

Dr. Wise had climbed back into the utility. His face

was uneasy. He looked at the professor as if to say something, but his lips only compressed themselves more tightly.

"Drive slowly," Orcutt said, with a frown.

Nugget spat a mouthful of alkali over the side, and the utility began to lurch forward again. The sulfurous tang in the air seemed more pronounced.

"Funny if a live crater opened up on us," Jugs volunteered.

Ahead of them the heat waves and sand smoke brought a vague impression of solid rock.

"I don't like the looks of that," Professor Orcutt said.

"Too narrow to turn, anyhow," Nugget called back. "Put her on her back, and she'll lie there like a turtle. Any of youse ever die of thirst? That's what 'ud happen. Ditch the bus and you might as well cut your throat."

Jugs broke a tense silence to say derisively, "Bill, I bet you'd give a bit right now to be back in Skeleton-on-the-Marsh, or whatever it was in Old Blighty."

"Don't panic," Bill urged.

Dr. Wise broke in, "I can see an opening ahead, I think."

"I've had me eye on it fer weeks," Nugget assured him. "Oo's driving, Doc?"

"You seem to be," Wise called good-naturedly. They were well used by now to Nugget's jealous defense of his particular job. "Yes, there's a gap there all right."

"Could be a dead end," Jugs muttered.

"Now who's worrying?" his pal gibed. "Golly, look at those cliffs! I can't see the tops of them."

The walls rose sheer on either side of the gorge. Here and there through the haze they caught a gleam of color flung down from the sun-scorched heights . . . of yellow and vermilion, cobalt and jet black, with tufts and spumes of frothy gray pumice.

"Reminds me of Standley Chasm, out from the Alice," Nugget grunted. "Maybe it's another freak like that there. Maybe she goes clear through."

He yelled over his shoulder, "Say, Prof, what do I do?"

"You can try it, anyhow," Orcutt encouraged him. "If there's a storm coming up it will give us some sort of shelter, at any rate. The air's just packed with electricity, Wise. Can't you feel it?"

Before his confrere had time to answer, there came again that swift, frightening, sideways roll of the laboring utility. The wheels spun madly in a vain attempt to grip ground that suddenly wrinkled and folded like an accordion. As before, it ceased as suddenly as it had come. Once again a fiery breath swept over them, leaving a stench of burning in its wake. The sand smoke had a blood-red tinge.

Bill Carey had been staring at the twisting shoulders of lava rock ahead. The sand benches had vanished, leaving a wide, flat expanse of glasslike rock, over which the utility now barely crept forward. To the left he caught sight of the leprous-white tangle of a dead finish bush.

"Hear that!" Jugs cried.

The silence, save for the straining of the truck, had given place to an eerie moaning sound.

As before, Nugget had pulled up the utility. He was snorting with annoyance. His faded eyes held an obstinate gleam, and, oddly, the hairs on his chest and arms seemed suddenly to stand up like thin wires.

He exploded, "Mamma, mamma! I ask you. Say, them cliffs could come down with one of them shakes. So what, says you? I guess I can't turn 'round. The blinking tires can't get ahold of this here going. What say, Prof?"

"Get going again, as fast as you can," Orcutt repeated

urgently. Suddenly he appeared anxious and irritable. Staring at him, Jugs and Bill noted that his immense brows had assumed a stiff look, like the hairs on Nugget's chest. On an impulse, Jugs put a hand to his head, and was startled to find that his own hair was almost rigid.

"Electricity!" Bill gasped.

Orcutt was shouting. "Get on! Get on! Look! There's gravel ahead. Get to it and the tires will grip. Head for the ravine, Nugget. There's something cooking."

The utility hung a moment, then, with a crashing of gears, slid from the glassy underhold, took hold suddenly, and shot forward like a frightened animal. The opening of the ravine found them in a haze so thick that Nugget switched on the headlights. At once the beams picked up walls about twenty feet apart, rising with a smoothness and evenness so exact they could hardly believe they were faced not with man's architecture but with nature's.

"Old river bed, like Standley Chasm, out from Alice Springs," Dr. Wise shouted. "Nature can use water like a knife . . . goes back into unremembered time."

"Hold tight, youse kids," Nugget advised.

Jugs said, "What do you think? Don't kid yourself."

The moaning of the desert was steadily rising. In the confined space, the noise of the racing utility was flung back at them in a series of vast overlapping echoes. They could hardly hear Orcutt's urgent cry, "Faster . . . if you can make it, Nugget. Get out of this place, I say . . ."

Beneath them, the ground began once more to heave and twist. The old-timer was almost standing on the accelerator. His eyes were smarting and there was an acrid taste in his mouth. The walls of the chasm had opened out unexpectedly. A greenish light was flickering along the serrated edges of skyline. Nugget felt his stomach run into a tight knot.

Without warning, an enormous volume of sound fell upon them. They were caught in a maelstrom of spinning, twisting light. The utility leaped and bucked . . .

Nugget yelled, "Mamma, mammal I can't hold her . . ."

Then it happened.

A great spear of lightning, a Jovian thunderbolt of incredible brilliance, stabbed the convulsed earth. There came a second of confused consciousness in which their very souls were torn with terror and despair.

Then . . . nothingness.

Chapter 2 The Lost Crater

JUGS RETURNED to consciousness, to find himself lying flat on his back in a bed of hot sand. He struggled to his feet and looked about him, trying to grip his reeling mind. As his sight cleared, he saw the utility truck, with Nugget collapsed over the steering wheel. Beyond him, Carey's head moved uncertainly. Jugs limped to the back of the truck and peered in. Dr. Wise was groping on his hands and knees. He was trying to lift Professor Orcutt from the floor. The American pushed him away with a feeble hand.

"Guess I'm okay. Holy mackerell! That was some lightning! You all right, Wise?"

Nugget's smothered grumble reached them.

"Mamma, mamma! Who hit me?"

Jugs found his voice. Sick as he felt, he couldn't resist a poke at the old-timer.

"I did. Hi, Pommy?"

Bill, weaving his way to the ground, stammered, "Hi, Aussie. How's tricks?"

They grouped about the side of the utility, trying to make some sense of things. It struck them as odd that, beyond a bruise or two and a general comprehensive headache, they were without injury.

Dr. Wise said, "Obviously we were struck by that terrific bolt of lightning. Amazing!"

"I'll say it is," the professor grunted. "But, say, what is this place? How did we come through those walls?"

They stared uncomprehendingly.

Nugget had made a quick examination of the utility. Now he announced in a fuming voice, "Steering gear's all busted to ribbons. Just a junk heap. Who's going to pay me for that?"

"I'll see you don't lose out," the professor soothed him. "I don't see how you got us out from those walls, old-timer, but I guess you must have . . . somehow. Or maybe we rode out on the back of a miracle."

"Joke," Bill breathed into his pal's ear. "When the professor turns on the wit, he's a picnic."

Dr. Wise said, "Carey!"

"Yes, sir?"

"I heard you. A little more respect, if you please."

"Yes, sir."

Orcutt asked absently, "Were you speaking to me, Carey?"

Dr. Wise, who had a twinkle in his eye, intervened quickly, "I fear we're in a bad way. Fortunately our gear is safe. We must plan how to get back to Cache 5."

They all looked past the useless truck to the uprearing walls of multicolored rock, which still showed a faint movement here and there. Of the ravine from which the utility had shot in the nick of time, there was not a trace. All that remained to show that it had ever existed was a huge mass of quivering rubble and a cloud of slowly drifting dust. The gap was sealed and lost. Its site was now filled by almost perpendicular cliffs rising a thousand feet or more from the floor of the desert.

"Yeah," Nugget growled, "we're trapped all right. You'd need to be a monkey to climb over that there. Shank's mare for us, I guess."

"And where would we walk to?" Dr. Wise asked quietly. "To reach Cache 5 we must head north. So far as I can see now, the only open country runs south."

"I guess we did the only possible thing," Orcutt put in, after a little uncomfortable silence. "The turn-in through the gorge took us right away from our planned route, and normally all we would have to do would be to return on our tracks. Now, that's out of the question, even if the utility could stand up to it."

Nugget complained, "Steering's bust wide open. I said we oughter take a camel string or a team of donks, didn't I? This here's no country for cars."

"Can you see a camel string getting through that ravine at eighty miles an hour?" Jugs said derisively. He was almost himself again, except for a few aches and pains.

Nugget ignored him.

The professor, addressing Nugget, said blandly, "You had a truck you wanted to hire me, and you traded yourself on your own terms. Quit your grumbling and be a right guy. You boys get some food out, while the rest of us check over the gear. Here we are, stuck in the desert, and it's going to take some spry thinking to get us clear."

"Shank's mare," Bill said.

"I guess so, son."

"Suits me. More fun that way, I should think."

Dr. Wise said dryly, "That's the right spirit, anyhow, Carey. Orcutt, does it occur to you that this place could always have been sealed off, just as it is now? In the last confusion, before we got clear—I don't know if any of the rest of you noticed it—we seemed to be running a circle."

"We was," Nugget said.

"Exactly. This wasn't any earthquake. It wasn't an upset caused by an electric storm . . ."

Jugs put in, "But we seemed to be in a pool of electricity, sir."

"A feature of any phenomena of the kind," Dr. Wise

told him. "I think there's no doubt we've experienced what we could call a rock tide. A tide not of water, but of land—a shifting and flowing of rock strata. We'll know more about it when we come to check up on the observed conditions."

"My own opinion, Wise," Orcutt said. "A big creep in the ground could easily topple the sides of the ravine—even split solid rock. The ravine likely had a dead end. I think it did. The rocks opened out with the shake of the tide and carried it through wide enough to let us shoot out here into the open, then closed again."

"It sounds fantastic," Wise said.

"The prof's right," Nugget said. "The headlights picked out a blank wall. All at once it opened, and I seen daylight, and let her go, Gallagher."

"In other words," Orcutt said, "we were in a cul-de-sac. It opened and then closed again. But I guess that sort of freak thing has been happening ever since Adam."

Over their meal they discussed plans. The prospect was grave, but they made light of it.

"Stands to reason," Nugget growled, "there's a way somewhere out of this pan country. If we can't go north through them big cliffs, there'll be a way 'round them. This is mica country. Did I ever tell youse kids about the time I was up in New Guinea, and I come on a belt of kumai grass that was fifty feet high if it was a foot? I'd never have gone into it only I was being chased by an old man crocodile . . ."

"Who, or which, was two hundred feet long and had two tails," Jugs murmured.

Nugget gave him a murderous look.

"For a whole month, if you'll believe me," he went on, "I was lost in them big grass stems."

"And you kept yourself alive," Dr. Wise interrupted gravely, "by eating porcupine eggs, until finally you climbed a stalk and located yourself, and got out and

married the daughter of the chief of the Oombompo tribe."

Nugget waved hairy arms.

"Okay, Doc, I'm a liar. If all youse know so much about it . . ."

The professor said soothingly, "Tell us how you see things right now, Nugget. You're the man with desert experience. We're relying on you."

"Well," Nugget said, "we got plenty food, anyhow, Prof. And we can shoot a bit of meat as we go along—euros and maybe emus. Though it's a fact this here place seems kinder deserted like. Not even a bird around. Queerest place I was ever in."

Orcutt bent down and picked up a piece of rock.

"Know what this is, boys? It's pallasite—an intermediate between stone and iron meteorites. See over there . . ." He pointed to a huge outcropping pile on the slope below them. "That's tilted dolomite strata, eh, Wise?"

"Meaning," Dr. Wise said, "that we're in some kind of a meteoric bowl."

Orcutt nodded.

"Just so. It's too bad we can't do a bit of rooting around right here, only we've got to think of our safety first. You could say this crater, for that's what it is, was formed millions of years ago. Reminds me a little of our Meteor Crater in Arizona. That white stuff over there is flour rock—shattered sandstone. This is lost country."

"Maybe we ain't lost ourselves," Nugget grunted. "Mamma, mamma!"

"You mean there's a chance of finding your purple obsidian around here?" Bill said.

"We'll come back here later, if we can," the professor said briskly. "It's a geologist's paradise. Look at that meteoric iron. I believe this is an impact crater, Wise."

"Looks like it."

Nugget had wandered over to the wrecked utility truck. Leaving their elders to their discussion, Bill and Jugs found new shade behind a sand ridge, and settled down to discuss their own point of view. Whether the climax of the earth tide, or whatever it was, had automatically dispersed the thick haze of an hour ago, or whether in this cutoff desert region there were air currents of another kind, they had no means of knowing. Certainly, now, there was even a slight breeze. The air had a remarkable clarity. Spirals of sand were steadily moving up from the red and yellow sand benches to mushroom out, like small glistening balloons, across the salt pans beyond. The slanting rays of the sun struck fire from the towers and peaks of the encircling range.

Bill, resting his field glasses on his knee, said, "Well, I admit all this takes the eye, but, gosh! call this a country! It's more like a slag heap left over from the original creation. Small wonder we don't see any sign of life around."

"Find water and you'll find life, all right," Jugs said. "If you want to know, water is my main anxiety."

"You think there might not be any?"

"Could be that way. We might find a soak, though."

"A soak?" Bill echoed. "You mean you find some place in the sand and dig, and water soaks up? Well, what's wrong with that?"

"Not a thing. Only soak water can be so heavily loaded with alkali that you can't drink it."

"I must say you're a cheerful guy—regular little beam of radar."

Jugs said, "Might as well look facts in the face, pal. Water means life. A man can get by with mighty little to eat, but he can't let his insides dry out and get away with it."

"There was a man in a side show I saw at Blackpool..."

"Be yourself, Bill. I don't say these fasts are faked, but I do say they can stop when they want to. If you're on a thirst in a place like this, you just go on being on a thirst. That means the big sleep."

"We can carry water from the tank in the utility."

"We can. And we will."

"Well, then . . ."

Jugs gave the tenderfoot a scornful glance.

"Look, Pommy, how long d'you think water lasts in real desert country? Say, with all the rest of your junk, you set off with a hundred pounds of water—that's ten gallons, and about the limit a man can carry. If you don't watch yourself you can drink the whole ten gallons in a single day. It just crawls out of your skin again, as fast as you drink it down. And if you carry it in canvas, instead of a metal container, a lot of it evaporates anyway. Did you say something?"

"I said I wish I were a camel."

"You often look like one. So what?"

"I'm told a camel can go for weeks without a drink, if he's got a bit of green feed."

Jugs grinned.

"You're told right. If he's trained properly. You're not trained—even improperly. A camel can drink up to forty-five gallons in one try. It takes him half an hour."

"You wouldn't be kidding me, would you?" Bill asked suspiciously.

"Not this time, pal."

"No chance of getting the utility going again, I suppose?"

"Not a hope. You heard what Nugget said. She's deader than a doornail. What are you looking at?"

Bill passed over his field glasses.

"I don't know. See that big red peak on the right? There's a clay pan, or a plain pocket, right in front of

it. Got it? There's some sort of movement down there. Kangaroos?"

"Or myall blacks."

"How right you might be. Come to think of it, Jugs, why shouldn't there be wild boongs in a place like this? Natives that have never seen a white man."

Jugs was whistling softly between his teeth.

"Not kangaroos, I think. Not emus. Not blackfellows. I've just got the feeling."

"Oh, yeah? Tell me why."

"Easy to pick out kangaroos," Jugs explained patiently. "They move in groups. Emus march in line. Whatever these are, they are strung out. At this distance, though, I suppose even I could make a mistake."

"Don't believe it, Jugs."

Jugs had caught the attention of the professor and Dr. Wise by waving the glasses. The two came to join them.

"What is it? See game?"

"I'm not sure, sir. Something alive, though."

"Natives," Dr. Wise suggested, taking the glasses. "Now, that could come in quite handy for us . . ."

Orcutt had already trained his own glasses on the spot.

"Not natives, Wise." His tones were puzzled. "Game? I guess Nugget could tell us. Something on the march . . ."

"If I didn't know that such a thing was impossible," Dr. Wise said, with a laugh, "I'd suggest that what we see is a black snake about half a mile long."

"Nugget would call that kind of a snake a mere worm," Bill said, grinning.

"Wait a moment," Jugs put in. "The blacks have a legend about a big pfella snake, haven't they?"

"Every race has its own version of the snake in Eden," Dr. Wise said dryly.

"This particular snake," Jugs went on, "started out from Mount Eba about a million years ago, with the

intention of eating up the whole human race. He probably died of indigestion long ago."

Nugget, who had now joined them and had been looking steadily through Bill's glasses, snorted. "Them's not boongs, I can tell you that much. This ain't hunting country. My guess is it's a line of emus."

"The unbroken line, of course, can turn out to be an optical illusion," Orcutt said, at their backs. "I suppose that couldn't be scouting myalls, Nugget?"

Nugget shook his head.

"They'd be fanned out. And you wouldn't see them, anyhow; they'd be crawling through the spinifex. No, gents, it's got me beat. That red peak, though, should be right in the line of our trek tomorrow, and maybe we'll pick up tracks that will tell us something."

"I guess," the professor said thoughtfully, "it mightn't be a bad notion to check up on the shooting irons. In lost country like this a man could find something taking a bite at him when he wasn't looking."

They exchanged glances, half serious and half amused.

"Movie stuff," Nugget grunted. "I can handle the boongs, Prof. Don't any of youse worry when I'm around."

Dr. Wise said, "Very comforting. But I rather think Professor Orcutt is right. We can't afford to take chances."

Nugget walked away in disgust.

"When I was at the North Pole," Jugs began in a loud voice, "I remember strangling an Abominable Snowman with one of my bootlaces . . ."

Nugget turned so abruptly that Jugs got ready for a sprint, but the old-timer fortunately contented himself by shaking a fist and muttering, "Mamma, mammal"

Orcutt called after him, "We'll camp right here where we are and make a start at sunup. What we'll be looking for, you boys, will be any sort of a break in the cliffs

that heads north or thereabouts. And no straggling—mind. Until we know more of our position, we stay together."

"You know what?" Jugs said, some time later, as he and Bill were making up their packs for the morning. "There's something wrong with this place, old pal. You can smell it. It's like a part of the desert that's gone bad, if you know what I mean."

"I reckon I do. I've had that feeling for a long time."

"We all have, I guess."

"Not Nugget, though. Naturally. There was that time when he was hunting buffalo down in the Amazon jungles . . ."

"Cheese it, Bill. I'm serious."

"Well, then, so am I. I know what you mean."

He picked up his freshly oiled rifle and drew bead on the ragged yellow moon that was riding clear of the fangs and scarps of the bewildering skyline. Their tips were silver against the deep purple of the night sky.

He repeated soberly, as he laid the weapon aside, "I know exactly what you mean, Aussie."

"Come to that," Jugs said, "what's gone wrong with the desert night life? Any other spot, the dingoes would be howling out from their caves, on the night chase. Can you hear even a single dog? Can you hear any living sound? It's like being in a vacuum."

"Uncanny."

"And yet I don't know," Jugs said with a shrug. "It's probably just someplace. You know how you can get a spot in a garden where nothing will grow, however you try. Nothing ever seems to go near it, not even slugs or slaters. It's poisoned, sort of. But there's all the rest of the garden. A day's march will snap us right out of this."

"You don't believe that."

They eyed each other, in the light of the cooking fire being tended by Nugget.

"No, I suppose I don't," Jugs said quietly, after a moment. "I've got a hunch that there are some dirty doings not so very far ahead of us."

"Meaning we're not going to get out of here?"

"No. I think probably we will. I've got faith in Nugget as a bushman. Look, Bill, this place seems like another world. Understand? It's not that it shouldn't be here, but that we shouldn't be here. We don't belong."

Bill grunted and began to spread his sleeping bag.

"Oh, well, we'll find out all about it in a while, I expect. And, listen—no snoring. I've had about all of it I can stand from you. That doesn't belong, either."

Chapter 3 Cry in the Night

[**EXACTLY** WHAT it was that suddenly woke him, Bill Carey did not know. He had turned in thoroughly tired out, as they all were, after the dramatic experiences of their earth-tide gate-crashing, as Jugs had put it. There had been, too, the long discussion as to their changed plans, which now had to make provision for a quite unexpected journey by foot over strange and possibly hostile country. Their nerves were on edge against the element of uncertainty and a curious feeling of unreality.

All this came to mind as Bill stared with wide-awake eyes at the dome of night sky, frosted with stars. At the back of his mind was uneasiness. He could not understand why it should be. His companions lay quietly sleeping on either side of him. Nothing wrong there, anyhow, he reflected. Maybe he'd forgotten something when making his preparations for a dawn start. Each member of the party had been allotted a particular task, in addition to the general routine which applied to them all. The situation, Professor Orcutt had gravely explained, was too precarious to hold them to the strict objectives of the expedition, for the time being. In short, it must be safety first.

All the same, the English boy's thoughts ran, I smell a cockroach in the ice cream. Now why?

He sat up and stared about him.

The fire was down to a red ash. Beyond its faint reflected glow the desert lay inert, gleaming whitely in the moonlight. His eyes followed the long roll of the sand benches into the purple shadows that hid the rubbed base of the uprearing cliffs. Not a sound reached him.

Aw, you're crazy, he told himself.

But sleep would not come.

He stirred again after a while, and read the illuminated dial of his strap watch and saw that it was around four in the morning. The air was crisp and well down toward freezing point, as is the habit of true desert, where a cloudless sky enables quick radiation of the earth's day heat.

The cocoon that was Jugs emitted a snort, wriggled a moment, turned over on its face, and was silent again.

Bill grinned, and let fall the handful of sand he had grabbed to salute an expected outburst of snoring. He slid back once again into his sleeping bag, recalling that he had dropped off to sleep about in the middle of one of Nugget's best efforts of imagination. Something about a lot of printy lizards holding a concert on a river beach up in Arnheim's Land. Some of them barked, and some of them bellowed; while an enormous rock python, on a rock in midstream, conducted the uproar, holding a live man in his jaws and using him as a baton. Oddly enough, the man was Nugget . . .

At this point Professor Orcutt had sharply suggested that if Nugget would now imagine himself to be asleep, everyone would be extremely grateful. This had made the driver very angry, and he had resigned from the expedition. As there had been nowhere to resign to, however, nothing more came of it. It was during Nugget's mutterings that Bill had faded himself out of the picture.

Sniffing at the tang of the sleeping desert, Bill went on to recall how easily he had fallen at first for the old Centralian's tall stories. Even Jugs had pulled his leg, time and time again, and had got away with it. But now he was awake to both of them; he had even weighed in himself with a yarn or two which, if immediately scouted, had anyhow earned him respect as a desert liar.

He told himself now that he wouldn't have any of this talk about their being in a sort of lost crater, if it hadn't come from the professor and Dr. Wise. You could tell they didn't care for the way things had gone. The atmosphere of the place scared them a bit. And Nugget had said it gave him the same bad taste in his mouth as he got when he ran into a party of myall blacks, and could have had a spear in his back any old time.

So that was that.

Not a nice place to be in, Bill thought. A dead place. Nothing to hear, nothing to see. Unless you counted the things they had seen away out across the salt pans . . . unless they'd all been cockeyed and had just imagined them. This, so Nugget said, was typical dingo country. Only a couple of nights before, camped on an ironwood flat out from Ruby Gorge, with a full moon hung over the tops of the ragged bluffs, the wild dogs had made night hideous with their howling and snarling. That, of course, was on the other side of the great mountain basin. And yet . . . it was more than strange that here apparently not a single wild dog was in evidence.

"Aw, be yourself," Bill mumbled, and settled himself in a determined effort to sleep.

He was on the verge of it when a faraway sound floated up out of the night. It was like the cracking of a whip, yet he knew it could not be that. There was no possibility of such a thing. And, besides, there was

something a little sinister and horrible in the sound; a note that held an unnatural timbre. Bill felt a sinking at his stomach. He was not exactly frightened, but he was distinctly alarmed.

As he held his breath to listen, the sound came again. Almost immediately it was joined by a second and different sound—a chuckling, slobbering kind of noise that took his mind back to the South African veldt, where he had stayed a few weeks with an uncle, en route to Australia. He had never forgotten the blood-chilling laughter of the hyenas, nor his one brief glimpse of their grotesque shapes slinking lopsidedly across the starlit kopjes.

But the sounds he heard now, he decided, were even more repulsive. They were not human, but they came closer to it even than the cry of hyenas, or the call of the great antropoid apes. There was a kind of twisted intelligence behind them.

On an impulse, Bill crawled from his sleeping bag and into his jodhpurs and riding boots. He moved carefully, in order not to disturb his tired companions. He pulled a sweater over his head, for in the open it was bitterly cold, and started to climb the sloping sand bench that walled them from the wide sweep of the desert beyond and below. They were, in fact, camped in a natural pocket of ground which concealed them quite effectively from their surroundings. It had been a deliberate precaution on Professor Orcutt's part.

Suddenly, to his astonishment, a low voice called his name. He halted abruptly, to see Dr. Wise coming out of a side coulee; he was fully clothed and had a rifle in his hand. He had, also, his night glasses.

"Quiet, Carey. No need to wake any of the others. So you hear it too?"

Bill said breathlessly, "Yes, sir. You gave me quite a start. I thought . . ."

"I may snore," Wise said, with a smile, "but I hardly aspire to a feeding-time-at-the-zoo racket like this, even if it is pretty far distant."

"I thought you were asleep in camp, sir."

"I've been out here for nearly an hour. I came in to see if any of you were awake. I wanted confirmation . . . I had an odd fear, Carey, that I was taking part in some sort of nightmare . . . Ah! there it is again."

It was sharper now, and clearer. And the direction was easier to determine. A horrible noise, Bill told himself. He felt the hair at the back of his head beginning to rise.

"Now that there are two of us," Dr. Wise said, "we can venture afield a little. Some scouting seems in order. Go back and get your gun. Hold it on the side away from the moonlight. Reflection from a gun barrel could be seen a long way off, and we don't want to attract a possibly unwelcome, or even dangerous, attention. Those are not natural desert sounds. They are sounds made by some kind of life. Off you go. I'll wait here."

"Any guesses, Doctor?" Bill asked, as he rejoined his companion. "Animals of some sort, I suppose. Or do you think it's a blacks' corroboree? They have totems, haven't they? Maybe it's a lot of myalls in a totem corroboree, making out they're the animals of their totems?"

"I doubt it."

"Those moving things we saw last night. Would there be a connection here?"

"I don't know, lad. Easy now. Keep your head down. Look . . . we'll follow this gutter bottom along a bit; the ridge will help to hide us from the pans down there . . . There it goes again!"

The eerie sounds rose and fell. They seemed now to come from directions widely apart. Bill had an odd

thought that someone, or something, was attempting communication with a like intelligence out of sight.

But what sort of creatures were they, that got in touch with each other by means of such discordant language? Or were they signals? It wasn't possible to find a sane explanation.

Directly beneath them rose a low ridge topped with granite as old and smooth and yellow as ancient ivory. Beyond, the ground fell away steeply, patched with pools of inky shadow, as the setting moon slid behind the scarps of the western precipice. The floor of the desert was slowly fading from sight, as the thickest of all darkness—that before the dawn—came flooding in on a slow but relentless tide. Strips and bars of moonlight ran like quicksilver over the sand ridges and quartz downs, until swallowed one by one in the obscurity.

Dr. Wise passed his glasses to Bill.

"Tell me what you see," he said in a low voice. "Be careful. Keep as still as you can. It's movement that gives you away. Never forget that. This is something quite out of the ordinary, unless I'm much mistaken. Smell anything?"

"I guess I do. It's . . . it puts me in mind of the chemistry lab at the University. Is that what you mean, sir?"

"Something like that. Chemicals . . . acids . . . the air has a queerness about it, too. Some kind of radiation. Look carefully, Carey. Describe what you see . . . or think you see."

Sounds as if we were in class, Bill told himself, with an uneasy grin.

Aloud, he began quietly, "I can see a big ravine, with a jagged rock pile to the left. In front there's a wide clay pan, or something of the kind . . . could be a big sulfur-crust lake, like the one we passed close to Devil's Marbles, as they call them. Just a minute . . . that's

better. Right in front there's something that looks like the arm of a big crane . . . no, not a crane . . . more like a big metal wireless mast. Only, of course, it can't be that. Not in a place like this."

"Never mind that. What else?"

"Nothing much. Wait though . . . it seems to be bending and swaying. It's very fine. I can only just make it out . . . it's gone. I can't see it now at all."

As his voice died, there came a single whiplike crack, followed by a succession of the chuckling, hyena-like sounds. The desert silence swung back into place. The moon had disappeared beyond the last purple rim. High overhead, the stars burned faintly in a whitening arc of sky.

Bill found he was trembling.

"Doctor! What was it?"

Wise was silent a moment. Then he said, "I don't know. But I can tell you what we are smelling."

"What?"

"Formic acid."

Bill said, "Of course. I knew I'd smelled it before. Formates—you can't mistake the smell of the formic salts. Only, how on earth . . ."

He left the query unfinished.

How on earth? Indeed and indeed. Noises like crackling whips and the slobbering of hyenas! A thing like a wireless mast! A stench of formic acid! And all this in a corner of desert that was like a bit of leftover creation, cast aside ages and ages ago and forgotten. It didn't make sense.

He began to say so, but was pulled up sharply by Dr. Wise.

"Keep quiet, lad." His own voice was scarcely audible, but charged with excitement. "They . . . it . . . everything's vanished."

He lowered his glasses. He took out his handkerchief

and wiped sweat from his face. Sweat . . . on the desert floor, with a temperature down under!

Carey thought, I'm scared, but I won't let him know. There's usually a sensible explanation. There'll be one for this.

Aloud he said, "Do you think . . . whatever it was . . . could hear us?"

Dr. Wise thought rapidly. After all, they must face the truth together, whatever it was.

"I have a queer thought, Carey, that some kind of sensitive ray was in operation. I don't mean in the sense of a language—though it might even be that—but a contact ray, that picks up, locates, and identifies. If there was anything of the kind just now, we can only hope it missed us. I should say, in the event there was, it must have missed us. Otherwise . . ."

"We could have been in a spot right now."

"Yes."

They remained a full ten minutes, staring silently down at the outline of sinks and pans and ridges, the blurred rock piles and the crumpled sand dunes, all now taking faint shape in the coming dawn.

But here the exquisite experience of former desert dawns ended. There was no long, liquid, nightingale note from a rousing butcherbird; no following chorus of mudlark and minah, and a tinkling of bellbirds; no busy fluttering of twittering wrens and finches. There was not even the harsh, predatory note of the carrion crow, flapping in ghoulish search of flesh—alive or dead. Nothing but a stark, unearthly silence, only to be momentarily broken by the brief breath of the dawn wind, as the sky bared to the coming of the sun.

Dr. Wise slipped his night glasses into their canvas case. It seemed to Bill that his lean face was a little white and drawn. There were puckered lines between his brows.

He said, "There's something else down there on the pans, Carey, that hasn't gone. Now that it's sunup, I don't think we are in any particular danger. We'll go down there and see what we can pick up. Keep your gun handy."

"Something else?" Bill queried, as they plowed their way down the heavy sand benches.

Dr. Wise pointed.

"You can see it clearly now. See . . . just about where we saw that . . . shall I say wireless mast, just to identify it."

"It's . . . it looks like a skeleton."

"That's right. Here we are . . . a crocodile skeleton."

Bill gaped.

"But . . . in the middle of the desert!"

"As you say. Moreover, a fresh skeleton. Steady . . . there's nothing about it to harm us. Can you smell formic acid?"

Bill nodded. He felt sick.

"I don't understand, Doctor."

"Nor do I," Wise said grimly. He stirred the naked bones with the toe of his boot. "I would say that this poor beast—and don't ask me where it came from or how it got here—was alive only an hour or two back. Look at it—picked as clean as a whistle. No, don't touch it with your hand. And look here!"

They stared at the scrambled sand all about the whitely gleaming remains. It was scored deeply, as if to the strokes of a huge knife. Here and there were little pits. And over all, that biting acid stench.

"Let's go," Dr. Wise said abruptly.

On the camp side of the ridges they met Professor Orcutt, in search of them.

He said, in relieved tones, "Here you are, thank heavens. I was beginning to be anxious about you. What

is it, Wise? I can see by your faces that something's happened."

Wise gave their story briefly.

"You're not—forgive me—imagining all this?"

Neither of them replied.

Orcutt shook his head.

"Okay. I'll have a look myself, later. I don't like this, Wise. I don't like it a bit. And I'm not, as you know, a person who can't take it. I guess we'd better talk this out while we eat."

When they reached camp and told the story, the reactions of the other two would have been comical in less strained circumstances. Jugs stared blankly. Nugget, straightening up from the fire, spat on the ground and scratched his leathery neck.

"No kidding?" Jugs gulped presently. He swallowed rapidly once or twice. Then his eyes brightened. "Why didn't you rouse me out, Bill Britisher? It's like you to hog all the excitement for yourself . . ." His tone changed to one of concern. "Say, you look a bit pinched . . . I was worried stiff, when I saw your empty sleeping bag. Was it pretty bad?"

"Rotten," Bill said. "The sort of noises you get in a nightmare."

Nugget broke in, "That part about the croc don't worry me, anyhow, Doc. This here desert has plenty open space under it. Could be an underground river somewhere . . ."

He roared, "Mamma, mamma! Can't youse kids give me a hand to get a bit of breakfast going? A wireless mast, my foot! I ain't in the same class as youse blokes for putting over a real spiel. Who's telling lies now?"

Left to themselves, the two scientists exchanged frankly bewildered looks.

"But . . . formic acid, Wise?"

"I daresay you'll still be able to smell it. No doubt of it."

"You're suggesting that crocodile was stripped off by acid?"

"I'm not. The flesh was . . . eaten off."

"It's crazy," Orcutt muttered.

He turned to look back across the awakening chaos. Already the heat waves were dancing along the benches, and a haze of alkali drifted up from the crumbling pans.

"What can it be, Wise? What can it be?"

Dr. Wise said simply, "I wish I knew. Evil, Orcutt, some kind of evil. I somehow wish we hadn't brought these boys with us. You and I . . . it's our job to take risks, but . . . well, we'll see. As I said to Carey, there may be, after all, a quite normal explanation."

"You said evil, didn't you?"

"The truth is, I don't know what to think."

Professor Orcutt said, strange for him, "We're in the good Lord's hands, I guess."

Nugget shouted that breakfast was ready.

Chapter 4 Nugget Takes a Hand

OVER A MEAL of flapjacks, beans and bacon, they held a council of war.

Professor Orcutt began by saying bluntly, "Until we know what we're up against, we must proceed cautiously. No use poking ourselves into trouble just out of curiosity. Our job is to find a way through or over those darned mountains to the mulga downs on the other side."

"Not much chance of going over them, I'd say," Jugs complained.

"We shan't know until we look them over. Right here they're as smooth as glass. Maybe, though, they're not as solid as they look. What do you say, Nugget?"

The old-timer grumbled, "Stone the crows! How would I know? I never seen anything like this before. I'd say follow them pans south, and keep our eyes skinned for a break anywhere."

Bill prodded him, "I thought you knew all about desert country?"

"This here don't stick to the rules," Nugget said pugnaciously. "And none of your cheek, young Double-you. You're hardly out of the egg yet."

"Come on now," Jugs said. Any time they could get a rise out of Nugget they cut loose with gusto. "I wouldn't mind betting you were never out of a city until . . ."

Nugget's looks were so ferocious that Dr. Wise intervened hurriedly, "That's quite enough from you lads. And you, Nugget, ought to know better than to take

them seriously. This is not the time for joking. We're in a serious position. Now then, you think we should trek south.

"By east," Nugget amended. "The desert naturally falls that way. T'other way—going west, I mean—we'd be heading right away from likely water. That croc down there must have crawled out from some place underground. Maybe a river, maybe only a rock pool. Find either, and if there's any life around this place besides our own, that's where it is."

"Could we make that skeleton our starting point?" Jugs suggested.

Orcutt shook his head.

"I've said already, we're not looking for trouble. Maybe, when we're better fixed, we can come back and get a line on what's cooking down around there, but for now—no, sir. Something made a meal off that big lizard, if what you say is right, Wise. I had a notion of seeing for myself, but maybe we'd be wise to keep clear of it for now."

"Quite so," Dr. Wise agreed. "My feeling is that we give the spot a wide berth; travel fast and as unobtrusively as we can. No shooting. That way, we'd attract attention, supposing there's any kind of enemy around."

Professor Orcutt added, "Nothing to shoot, anyhow. It's plain we can't live off the country. Not a sign of game anywhere. I guess that's top mystery. Only for that crocodile . . ."

Jugs said excitedly, "I knew that there was something missing that we hadn't spotted. That's it. No flies. No flies, mind you, when ordinarily the desert's alive with them!"

"Son," Orcutt said, out of the silence which followed their consideration of this strangest of all discoveries, "you're dead right. How we overlooked it until now, I don't know. Nary an insect of any sort."

"It certainly takes a bit of explaining," Dr. Wise said. He looked at them oddly.

"You have a theory?" Orcutt invited.

"It just occurred to me. Last night I happened to take a few bearings. Rather, I set out to do so, but not very successfully, owing to an extraordinary interference of some kind. I decided not to speak of it until I could make a proper checkup. In the confusion of what happened, I forgot all about it."

He took a compass from his pocket and leveled it on a flat stone. The needle spun madly, then subsided into a series of small, uninterrupted oscillations.

They stared at it uncomprehendingly.

Orcutt muttered, "Needs remagnetizing, I guess." He tried his own compass, and his bushy eyebrows rose. "Now that's odd! Mine's got the same jitters."

"I think it's fairly obvious," Dr. Wise said, in his quiet voice, "that this is some kind of magnetic area. I had my compass carefully tested before I left Adelaide. I imagine you took the same precaution, Orcutt. You have one, haven't you, Carey? There! You see! Useless, all three of them."

Nugget said, "Mamma, mammal Yeah. Okay, Doc. But what's that got to do with there being no flies around? I don't get it."

"I see what's in your mind," Orcutt frowned. "The angle of dip, eh? This crater bed could be some kind of electric area magnetized by electric currents circulating from off the rocks. That could happen with the quick evaporation you get in desert country. You could get an electricity pile that would bust a compass wide open."

"Yeah, I know," Nugget said restlessly. "But the flies, Prof, the flies?"

"A magnetized pool of country could easily kill off small forms of life, such as flies."

"Either magnetic current," Dr. Wise said, "or some form of radioactivity. It's a wild guess, I admit, but it will have to serve for right now."

Bill said, "But not all forms of life, sir? Not kangaroos, emus, printies, rock pythons."

"No, we have to find some other explanation for the absence of the large faunas. But you'll notice there are no birds, Carey."

"Listen," Nugget said with a grin. "Man and boy I been getting around these deserts before any of youse even heard of them, and I ain't used a compass yet. Anyhow, a compass is only handy if a bloke knows his definite position, and we can only guess at that. We got our watches, ain't we?"

Bill said, winking at his pal, "What a mind! So long as we can tell the time, what do we care?"

This time, rather to their astonishment, the old-timer refused to bite. They knew that he was a many-sided person, and in many ways unpredictable. But they knew also that behind his roarings and boastings there was a shrewd mind and a really kindly nature. They had never known him to be as much in earnest as he was now.

"Prof, what's happening to us is a fair perisher. I got an idea we'll need all the luck we can get. Stick together, says you. Okay, if we can. But there's times when it's got to be every man for himself. This here desert country is rank pisen, unless you know a bit about things. I been chewing things over in my mind, and I'd like to give a few hints like, while the going's good."

"Sure, Nugget, sure. If you've any bushman's tricks that might come in handy, let's have them."

Nugget faced them seriously.

"Some ways, these badlands are like a wild animal. You get the wind up, and they'll turn on you and maybe tear the insides out of you. Animals don't like you being scared of them. They don't understand it. It makes 'em

mad. So they go yer—see. Same with the desert. Show you ain't afraid of it and you've got it bluffed. Get to know it, or as much of it as you can. Show it you got a wrinkle or two on your horn and it can go find a hole in the ground and bury itself, for all youse care."

Dr. Wise, carefully holding a grin from his face—as they all were, following this extraordinary helping of mixed metaphor—said, "Very well put, Nugget. Go ahead."

"What youse kids don't know," Nugget said contemptuously, "would fill this here creater, or whatever it is. A compass! Now you listen to me. Gimme your watch, young Jay."

Jugs handed it over.

"See here. So long as you can find the sun—and when that happens in this country that you can't, then you can call it a day and go jump in the lake—you can always tell the points of the compass with your watch. Now, in the mornings, like this here, north is on your left hand, ain't it? And in the afternoon it'll be on your right?"

"So what?" Bill asked.

"Yeah. Well, if you want to know which is which any time, face the sun and point this here figger twelve at it. North is always halfway between the hour band and this here figger twelve. Once you got north, you can get the rest. East on your right, west on your left, and south behind you."

He gave them a demonstration.

Bill said, "What about the night? How do you find the sun then, Nugget?"

"Wise guy. Say, do you know where the Southern Cross is, when you look upstairs?"

"Who doesn't?"

"Okay. Draw a 'maginary line through the old Cross, from its head to its tail, and carry on that line about two and a half times. Where she hits'll be due south.

Yeah, youse two kids knew all about that, didn't you? I don't think."

"Thanks, Nugget," Professor Orcutt said. "That's something I didn't know myself, though the watch stunt is pretty well-known everywhere. Back home we can't raise your Southern Cross. Well, I guess that will have to be all for now. Time we got on the march. And right here you'd better take the lead, Nugget. You're responsible now for direction finding. Now, what's our first move?"

Nugget squinted at the sun. He pointed a finger as brown and knotted as a mallee root.

"I'd say we make for that red pencil bluff. She could be a breakaway from the cliff face. South by east, watching for a gap that'll swing us north or thereabouts. We'll travel until about an hour before top sun, then rest till she cools off a bit, and get going again arter that. Make use of the moon while she lasts."

Orcutt nodded.

"We've got enough food for several days, I guess. And we can carry a limited amount of water. When that's gone . . ."

The old-timer shrugged.

"Spit on your luck, Prof. We'll look for a soak, I reckon. It's peculiar there ain't no birds. 'Specially the finches."

Bill wanted to know just why.

"Because they allus make for the nearest water just before sundown. Follow their line of flight and if there's water they'll lead you to it. Git your packs up and let's get going."

What water they had was apportioned to the two boys. It amounted to three gallon-tins, and a fourth tin about half filled. They had in addition, however, their individual cloth-covered metal water bottles. With care, they had water enough to see them through for several days.

"Keep your eyes peeled for sign of a creek bottom," Nugget grunted. "Know needlebush when youse see it, any of yer? The boongs call it water tree."

Dr. Wise murmured, "*Hakea leucoptera*."

"I wouldn't know, Doc. But if we could find any later on, it could come in handy. Get a good juicy root from a needlebush and you can mighty near drink from it, like from a tap. The boongs cut the roots into billets and chew out the sap. Yeah, well, what's the talking about? Come on, youse kids."

He went ahead of them, his rifle strapped to his pack. In one hand he gripped a small can of petrol; with the other, he held his pipe—a brier almost as battered and gnarled as himself—carefully in his almost toothless mouth, puffing huge clouds of evil-smelling tobacco.

The can of petrol had occasioned humorous remarks from Jugs and Bill. Why petrol, when there was no car? they had wanted to know. Or maybe Nugget drank the stuff. But the old-timer was impervious to all this. He refused any explanation.

Professor Orcutt and Dr. Wise, talking earnestly, followed after Nugget. Jugs and Bill brought up the rear. From time to time they halted to make a brief but careful survey of the surroundings, the uncanny experience of early morning well in mind. But no signs of life were anywhere to be seen under the blazing canopy of the climbing sun. It was like walking through a dead world, where nothing showed but the vast sinks of the alkali pans, an endless succession of smoking sand benches and gutters, and a desert desolation stretching toward a mountain horizon crumbling and exploding under the enormous heat.

Distance, color and silence!

"Gives you the creeps, Pommy."

"It's your silly desert, not mine. In England we look after things a bit better."

"Yeah, I know. Dogsboddy-by-the-Sea. Sand and smells and broken glass. Who lives if England dies? I do. This is a man's country, anyhow."

Bill grinned.

"You're welcome, Aussie."

Jugs broke a perspiring silence to say, as they crawled along the crest of a greasy sand ridge, "Doc Wise seems to think that whatever the things are that we saw last night, they only come out after the sun has gone down."

"You saw?"

"Have it your own way. Those noises You heard . . . like someone cracking a stock whip, you said. I wish you'd sneaked back and wakened me. As a matter of fact, I slept like a log. Never heard a sound all night. Dead to the world."

"You don't sleep," Bill said, "you go insensible. It's a gift. Like whips, yes. That was a noise you could understand—as a noise, I mean. Nothing beastly about it. But the other noises—like a lot of gobbling turkeys, or slobbering hyenas—are hard to describe, really, except to say that they were somehow foul, frightening sounds."

"Rather like one of Nugget's yarns. It gave him a bit of a jolt having to agree that your yarn was genuine. Only for Doc Wise backing you up, I bet he wouldn't have believed you. I don't think I would have myself."

"I wouldn't blame you."

"I've been thinking about that stench of formic acid," Jugs said. "Ants!"

"But there weren't any."

"Maybe they're underground."

"Be yourself," Bill scoffed. "How many ants would go to make up a smell in the air as strong as that? Besides, you can't get that smell from the little blighters unless you crush them. It doesn't have to be ants."

"Okay, it doesn't have to. So what then?"

"Search me," his friend muttered.

They came up with the rest of the party to find them staring down into a sort of crevasse that sliced the floor of the desert obliquely from north to south, so far as they could make out the snaking line of its length. The sides went down sheer into purple depths impossible to fathom.

Professor Orcutt, going down on his hands and knees, sniffed noisily.

"Stink of oil, naphtha, that's what it is." He scrambled to his feet. "After all, Wise, this is highly mineralized country. No reason why there shouldn't be traces remaining of the original bituminous deposits. We have an idea, you know, that your country here had plenty of oil at one time, but it's dried out over millions of years."

"That's one theory," Wise said dryly. He added, "If there's any accumulation hereabouts of naphtha that would account for the greasiness of the sand, apart from the alkali deposits."

He seemed to be more interested in the naphtha smell than the fact that in the crevasse itself was an impassable barrier to their progress. It was far too wide to bridge, even had they the means to attempt it.

Nugget had subsided into a patch of shade cast by one of the ever recurring monoliths of multicolored red rock. He grumbled, "Mamma, mamma, I can feel a touch of my screwmatics coming on. What's this stink about? What's naphther, Prof?"

"A rock oil," Orcutt told them. He fanned himself with his wide Panama hat. With his big square mouth and his goggle-glasses, he reminded Bill of a frog—a big, good-natured frog. "The thicker kinds are called petroleum. Well, boys, I guess this means we'll have to go back on our tracks. I don't know that I like the idea. Seems like there's nothing else to do, though."

But Nugget's curiosity was aroused.

"Yeah, I know. Gas. But how come you say this smell comes from an oil like, when there's bits of solid stuff, like this here?"

His hand had been fishing along the undersides of the crevice bank, and picked up a sliver of yellowish substance. With a grin, he pushed it under Bill's nose.

"Yah! Cut it out," the English boy said and grimaced. He grabbed the thing from Nugget's fingers.

"Golly! I thought it was rock. It's quite light."

"So light it would float on water," Orcutt said.

"Greasy as a hog's back," Nugget complained, rubbing his hand through a patch of grass in an attempt to cleanse it. "How come, Prof?"

Orcutt, who never grudged imparting information, was at once in his element.

"Naphtha is one of the thinnest of the liquid bitumens. This stuff you've got hold of, Nugget, has become solidified by exposure to the air and pressure over a long period. It burns easily. See here . . ."

He put a match to the sliver. It caught fire instantly, sending out a thick smoke that gave off a stench of tar.

Orcutt smothered the flame with dry sand.

He went on, "Interesting. Here you have the bitumen liquidum candidum of Pliny—as we call it today in commerce, naphtha. You can burn it safely in the open air, but it's dangerous to use in lamps."

"Like petrol," Jugs said.

"This specimen," Orcutt told them, "is native naphtha, coming out of rock oil down under someplace. But you can distil it from coal tar. And there are other kinds, like wood naphtha, bone naphtha, and so on."

Jugs and Bill had been rummaging for themselves along the ragged veins of the crevice side, and now produced several other slivers of the stuff, some of it yellow, some brown.

"You find it in profusion on the borders of springs

round the shores of the Caspian Sea," Dr. Wise said. "The city of Genoa was once lighted by means of a naphtha spring at Amiano, in the state of Parma."

"I guess we might tote some of these splinters along," Professor Orcutt suggested. "Kind of interesting, coming from a place like this."

Bill asked, "How old are they?"

"I wouldn't like to guess."

"Before youse was thought of anyhow, young Double-you," Nugget sniggered.

"It might be worth boring for oil," Bill said, ignoring him.

"If ever we are able to come back to this crater," Dr. Wise said, "we'll be able to test the possibilities."

"That would be mighty fine," Orcutt said. "I guess we could raise the capital, if the prospects were good enough."

"We're already trying for oil in New Guinea," Dr. Wise said. "And we've struck it in small quantities in Queensland and elsewhere."

"Petroll" Nugget exclaimed. "And here's me lugging a tin of the stuff around with me."

"You don't have to," Jugs said. "Or do you?"

"Them as lives longest will see most," the old-timer retorted. "I reckon you've said it, Prof. We'll have to turn south and find a way around this darned great crack. It's a fair cow, I'll say. Only thing like it I ever seen was one time up north I was chased by an old man buffalo with horns on him a yard thick. I let him have it with me sawed-off rifle and down he went. But we was both going so fast—me ahead by only a few inches, when I fired at him over my shoulder—that when he fell he couldn't stop himself. His horns scooped a gully for near half a mile, before he kicked the bucket."

He looked at them challengingly. Greatly to his annoyance, no one said a word. Professor Orcutt even yawned.

"Yeah," Nugget said disgustedly. "Okay. But you ask anyone up north and they'll tell you. I can show you the gully."

"All right, Superman, that's a promise," Bill said.

Nugget got to his feet and swung up his pack. He leered at their suddenly grinning faces.

"And what's more, I'd show you the skelington of the buffalo, only he fell into the gully he made and he ain't been seen since. Smart, ain't yer, young Double-you? Come on, gents. It'll be top sun before we know where we are."

A scant hour later, following the ragged curve of the crevasse, they arrived, to their astonishment, at the edge of a chain of salt pans, to find themselves within almost a stone's throw of a skeleton of a real kind; in short, the crocodile remains which they had been at such pains to avoid. The effect upon them was disconcerting.

"Well, what do yer know!" Nugget exploded. "We must have been pushed around in a half-circle by that busted crack in the ground. We're less than a mile from where we camped. Mamma, mamma!"

"Fate takes a hand sometimes," Professor Orcutt said thoughtfully. "Now we're here, I guess we'll take a bearing or two. You boys keep a lookout; though, as you say, Wise, we're probably not in any danger in the daytime. Still, we won't take any risks. Watch for any movement. Yes, I can smell formic acid all right. There must have been a lot of it around to leave traces as late as this. Or maybe it's an extra strong acid."

Jugs said, "Bill and I thought it might have something to do with ants, sir. They have formic acid, don't they? But I daresay I'm being silly."

"Ants!" Dr. Wise said. He stared about him with a curious expression. "You may have something there."

Orcutt said vaguely, "Now, if there was a big bed of stinging nettles here . . . but nary sign of one."

"Stinging nettles!" Nugget echoed. "Oh, I see. You reckon maybe that croc got himself stung to death somehow. It's a good story."

"Had there been a bed of nettles," Orcutt said mildly, "and it had been trampled down hard, by something or other, you'd quite likely smell formic acid, Nugget. It's found in the glands of the stinging nettle, you see. It's the acid that stings you, in fact. It's an irritant—and worse. Someone allergic to formic acid could literally be stung to death."

"Starve the crows!" Nugget said in astonishment.

"Mind you," Professor Orcutt added, "I'm not advancing stinging nettles as a theory to be applied in this case. Obviously there are no nettles."

"And no ants," Dr. Wise said. But his tone somehow lacked conviction. "I don't see how this could possibly have anything to do with ants. Yet, as you said, Gray, we derive formic acid from the ant. But, no, there's nothing we can link up here. Some chemical desert combination probably accounts for what we are smelling."

Jugs said modestly, "Formica, the ant. CH_2O_2 . How am I going, English?"

"Pure bombast," Bill said.

Dr. Wise repeated, as if to himself, "Quite impossible, of course. Such a volume of acid . . ."

He broke off.

Professor Orcutt, looking at him intently, opened his mouth to say something, but closed it again abruptly.

There was a look of almost fear on his big bearded face.

"Gents," Nugget's voice broke in, "I guess we'll lay up an hour or so, until she cools down a bit. This desert is heavy going. Youse kids keep on sentry. I'll take over in a while and you can try a bit of shut-eye. So help me, the more I see of this place the less I like it."

Chapter 5 Council of War

WHEN THE worst of the heat was spent, Nugget roused them to action again. While he and the two lads had spent their spell either in sentry duty or in restless dozing, Orcutt and Wise had talked in low tones, breaking off at intervals to scan the surrounding desert through field glasses.

Once, while Dr. Wise kept watch, his rifle handy, the American savant had made a cautious investigation of the saurian bones on the edge of the pans. As Wise had done earlier, he stirred it with the toe of his boot, but was careful not to touch it with his bare hands.

"It adds up to a young crocodile," he said, on return. "Or, possibly, one of your printy lizards—a kind of land croc, as you know. I'm told they can measure up to eight feet."

Even larger, Nugget had said, on being appealed to.

"But that's no printy, Prof," he added. "That's a twelve-footer. She's a river croc, all right."

Bill had wanted to know why it couldn't be an alligator.

"What's the difference, anyway?"

"No alligators in this country," Dr. Wise told him. "But we've plenty of crocodiles. The difference is the alligator has a shorter, blunter snout, and teeth in the lower jaw which shut into indentations in the upper jaw. Alligators are found only in America and China."

"That's so," Orcutt agreed.

Heading south again, but now more at a tangent, they went on discussing the strangely stripped carcass.

"Did it get there under its own steam?" Bill asked. "And from where? If there's a river, where is it?"

"Underground, you idiot," Jugs told him.

"No marks, Aussie. I suppose the croc climbed up and out on a ladder? Or maybe a crow dropped him."

Dr. Wise said, "Assuming a subterranean stream—and there are plenty under Central Australia—the animal could have wandered out of an opening such as the crevasse we found. It's my opinion, however, that it was brought to the spot where it is, by—well, suppose we say, by whatever devoured it. That thing we saw, Carey . . ."

"The mast thing! It looked to be alive, whatever it was, sir."

"No question of that."

Jugs ventured, "Maybe it's one of those long-necked prehistoric beasts Conan Doyle dug up for his *Lost World*. Plenty bones of the kind have been found around the salt shores of Lake Eyre, anyhow."

"Less chat, youse kids," Nugget called back at them. "Not meaning you, Doc, not by no means. But sound carries on desert air, and while I don't say there's myall blacks around, what youse saw could have been something to do with them. That picked croc now—a couple of boongs could put all that meat away without any trouble. The blokes with the Injun-rubber stomachs, we call 'em."

"All right. Quit talking yourself," Jugs grumbled. "Smother up, will you?"

"Okay, young Jay. I'll paddle you plenty when I get my hands on you."

Thereafter, for a long weary time they proceeded in silence. The absence of flies proved an immense advan-

tage, for the Central Australian fly, though smaller than his city cousin, attacks by thousands, and is a problem by itself.

The curve of the crevasse was forcing them persistently southward, it appeared. At their backs reared the sullen walls of their prison, the crags and peaks etched starkly against a sky of glowing brass. Before them, and on all sides, a burnt-out landscape stretched endlessly.

It was Dr. Wise who first caught sight of the gray-green mist—as it seemed—which suddenly floated into view down the chaotic funnel of the great gorge they were now treading.

"Surely that's water!"

"Jungle," Nugget said bluntly.

"Yes, you're right. Too bad. It's a canopy of trees. Not a mirage, I suppose?"

"Jungle, Doc," Nugget affirmed, more positive now he had trained glasses on the spot. "Yeah. But how come jungle right here in the desert? It's too sudden, if youse know what I mean."

"Jungle would possibly explain why there's no animal or bird life on the desert. Naturally, all that would hold to where there's shade and water. It would explain the crocodile bones."

"But scarcely the mast thing you saw, Wise, or the strange sounds you heard," Professor Orcutt said.

"Or the formic acid smell," Bill said.

Jugs said, "Listen, stupid, ants don't carry a wireless mast around with them."

"Let's forget that side of things for a time, shall we?" Professor Orcutt suggested. He exchanged a quick glance with Dr. Wise. "It's idle to speculate. And it's unscientific. We'll find out all in good time. We must make the jungle before sundown, Nugget, if we can possibly manage it. In fact, I think it's essential we do so. I don't fancy a night on the open pans again."

The old-timer's reply was to step out sturdily again down the sunken bed of the gorge. Already the light was fading. The desert has no twilight. Night and day take their turn with disconcerting abruptness.

An hour later they emerged from the gorge on to a limestone plateau. It gave place to a red sand, ribbed with spines of jet-black lava. Before them reared a flat-topped monolith. At its base Nugget suddenly halted and eased his pack to the ground. He stepped back then and measured the rock with an experienced eye. It came to them, watching him, that here somehow was a new Nugget, the Nugget of real and not fanciful adventure. There was a grim look in his eyes as he turned to them.

"Well, gents," he said slowly, "and not to make too much of a song about it, I reckon the tighter we pack ourselves the next few nights, the better. I got a bunch things aren't right around here. Or maybe, Prof and Doc, you don't look at it that way?"

Dr. Wise said quietly, "We think as you do. There is a feeling about this desert which, frankly, suggests . . . impossible things. That's the only way I can put it."

Orcutt made a little gesture of agreement.

"Smells bad. What's in your mind, old-timer?"

"We can't make the jungle before dark," Nugget said. "It could be a mile or more away yet, and the going might trick us, anyhow. So what I says, Prof, is, plenty of room up top there. Nobody can't come at us without us knowing it. Nobody nor nothing. See what I mean?"

"Possum, eh? Turn coon, as we say in the States. It's an idea I like. Can we climb the rock, though?"

"Yeah, on this one face. One of youse kids get a rope out of your pack. You, young Jay. Good on ycr. Now, see if you can scramble up, carrying this end of it."

Bill pushed his way in.

"Let me do the climbing. I've done a bit of mountain-

eering at home. Listen, Jugs, I'm not saying you can't do it, but practice tells. It's close on dark."

Dr. Wise advised, "He's talking sense, Gray. And it's not a time to put a personal pride before the common safety."

"No, sir." Jugs' cheerful grin replaced itself. He gave his friend a friendly push. "Up you go, pal. My turn later."

Bill said, "Be seeing you . . ." He felt for a hold on the forty-foot or so rock face. "This shouldn't be hard climbing," he threw back over his shoulder as his feet left the ground.

They watched him anxiously.

He was about halfway up when darkness came with the suddenness almost of a dropped curtain. Without thinking, Jugs put on his flashlight, with the idea of helping Bill's ascent. Instantly Nugget snapped, "Cut it out, young Jay. Mamma, mammal Ain't you got no sense?"

"Sorry," Jugs muttered, abashed. "My mistake."

Dr. Wise was calling softly, "Take your time, Carey."

"And make sure there ain't no rock python around up there," Nugget added. "Just the place for one of them darned great insecs. How's she making out?"

Bill's voice floated down to them.

"Fine. Plenty of holds."

A moment later he vanished over the edge. The dangling rope became gently agitated. His head reappeared in a small dark blob outlined against the skyline.

"I've made fast."

"Your turn, Gray," Professor Orcutt said. "Then we'll send the packs up. When the last gets up, send the rope down again and we'll join you."

Jugs, aided by the rope, made the climb easily. He found himself on a wide, flat top, with Bill grinning at him.

"Welcome to Saltpan Mansions. Sorry the lift has jammed. Okay, Professor, we're ready to haul."

In a half-hour they were all safely in position, with the rope coiled and secured. The difficult task had been to get the water tins up, but somehow they managed it. It had been Orcutt's emphatic orders only that had stayed Nugget from burying the tins in the sand.

"Yeah, Prof, and what if we spill most of it?"

"We have to take that chance, Nugget. All these precautions may turn out to be unnecessary, but since we're taking them we'll do it thoroughly. We don't want to leave the slightest evidence of ourselves."

To which end, as a last measure, Jugs had cautiously lowered himself to the foot of the cliff and had done his best to level the sand disturbed by their activities.

"No talking above a whisper," Orcutt said.

They had a brief meal, then settled down on their sleeping bags.

Presently, night glasses in hand, Dr. Wise opened the discussion they were all eagerly waiting for.

"Professor Orcutt and I," he said quietly, "have arrived at certain conclusions which we think should now be shared. They appear to us to be frankly fantastic, and completely unscientific as our science is understood; nevertheless, we must examine them."

"That's so," Orcutt said.

"Carey, I think it was you who suggested that there was one probable explanation of the complete, and apparently swift, stripping of the flesh of the crocodile. Ants."

"It was Jugs, sir," Bill murmured generously.

"This view," Dr. Wise went on thoughtfully, "is supported by a strong stench of formic acid. Not only was the air saturated with the acid, but there were unmistakable indications of it elsewhere. By a certain chemical action brought about by conjunction with the silica and

alkali salts in the ground, we recognize formic acid at once. I do not know of any other possible reagent toward this particular action following such a combination. I need not go into details. But I can say that the effect of such chemical combination is too well-known to us to admit of mistake."

Bill said, "Top of the class for you, Aussie."

"So we arrive tentatively at—ants. But what kind of ants? We found none. And, even if we had, the amount of formic acid—its volume and persistence in the surrounding atmosphere—must completely rule out any known descendants from the family Scolidae of the Hymenoptera."

"Boy," Jugs said in his pal's ear, "I believe the doc thinks he's teaching class."

"Cheese it, will you?" Bill raised his voice a trifle to say, "Yes, sir. They'd have to be mighty big ants. Even so, it wouldn't account for that mast thing, or explain how the croc got where it did."

Nugget growled, "Stop beating yer brains out, young Double-you. Go ahead, Doc."

"I was coming to the mast, or whatever it was," Dr. Wise continued. "Let us assume there were ants of some sort down there on the pans. Now, either they were accompanied by, or, at any rate, were in the presence of, some other creature, or we have to imagine an ant of incredible proportions."

Professor Orcutt put in, "We have to remember, if all this sounds like a movie from Hollywood, that this crater country could well belong to the same period of forgotten time as the prehistoric flora of the Carboniferous period to be found in your Palm Valley, out from Alice Springs. Australasia is a land of living fossils—marsupials like the kangaroo, the koala, the Tasmanian tiger and the Tasmanian devil, and back-to-front things like the platy-

pus—that's put together out of half a dozen different critters, I guess. The cycads and the zamia palms go back millions of years. So, I say, if what you saw was an ant, it would have antennae in proportion. There's your wireless mast . . ."

Jugs drew in his breath sharply.

"Whew! You mean it could have been an ant thing like, well, like the pterodactyls, and the magatheriums, and the big sloths, that got around when the world was half baked. I ask you!"

Dr. Wise said, "As you know, the remains of such creatures have been found around the shores of Lake Eyre and in Queensland. If this desert is part of a lost world . . ."

Nugget had been restlessly waiting a chance to get a word in. Now he said, "Yeah. Relax, will you? Only thing different about this desert is that it's dead as mutton. Not even a insecck. Know what I think?"

"I'm just burning up to know," Jugs told him.

"Mamma, mamma! I'll twist your ears one of these days, see if I don't."

"What *do* you think, Nugget?" Orcutt prompted.

"I think we ain't alive any more," the old-timer said mournfully. "Okay. Go on being funny, youse kids. We ain't alive; we only think we are. We was all killed when that earth wave hit us. An ant as big as a steam cranel And they call *me* a liar!"

"Not necessarily an ant," Orcutt said. "Say, some sort of a creature. We prefer the ant hypothesis because it's supported by the fact of the formic acid in outrageous proportions."

"Assuming you're right, sir," Jugs said, "and these out-size ants picked up our wave length, or whatever they do, with their antennae . . ."

"Smell us out, Gray. The sense of smell resides in

the antennae. They're actually noses of marvelous delicacy. We call this sense contact odor. Just about all an ant knows in the way of recognizing friends and enemies, trails leading to food, home surroundings, and so on, comes to it through its antennae."

"Not so good," Bill decided.

"Now you've said a mouthful, young Double-you," Nugget rumbled. "Ain't that why we're stuck on top of this here big rock? I've always said the desert can smell a man out. Ain't I jess said we're all dead? And when you're dead you sure advertise."

Professor Orcutt said gruffly, "That's enough of that. Not so morbid, Nugget. We'll get away safely so long as we keep our heads and don't let our imaginations run away with us. Get scare-crazy and anything could happen in a place like this."

Nugget grunted. In the faint starlight they could see him scratching his leathery neck.

"Ants are intelligent, aren't they?" Jugs asked.

Dr. Wise told him, "Extremely so, Gray. Their thought patterns are not like ours—or, so we believe—but there is no smallest doubt that they have some kind of dynamic mental process. They are specialized communal animals, and to a degree even greater than ourselves. They have a consciousness."

"Assuming an ant of the proportions of, say, a giant sloth," Orcutt added, "it is not unreasonable to assume also a vastly augmented consciousness. The brain of an ant, like that of man, is an integrating center much more highly developed than with any other invertebrates. Its way of life is more like our own than like that of its own invertebrate kind."

He fell silent at a smothered exclamation from Dr. Wise, who had focused his glasses on the wide sweep of the limestone plateau where they had broken cover

out of the ravine. Engrossed in their rather horrifying conjectures, time had passed unnoticed. Now the moon was just coming clear of the ragged mountain horizon, and little pools of light silvered the sullen sweep of quartz ridge and pan and rearing sand hill. The desert seemed to crouch like some great sprawled, grotesque night monster.

"Something moving over there. Take my glasses, Orcutt. Keep your heads down, all of you. See anything?"

"I guess not. Shadows, maybe. Hold on though. Sure, sure. There's movement all right. But I can't make out what it is. Now, may I be durned, Wise, if there aren't a bunch of trees walking around down there."

"Masts!" Bill whispered.

"You could be right at that, Carey. I don't get this."

Suddenly, without warning, the brooding silence was broken by a sharp whiplike crack. The sound was caught up by the high walls of the gorge beyond and broken into a succession of sinister echoes. As they listened, an answering whipcrack came from far down the slope of the plateau. It too sounded and died. The night air seemed to shudder, as if to a breath of wind, although they felt no slightest touch of it. The silence swung back into place.

No one spoke.

Jugs was aware of the hammering of his heart. His mouth had gone dry, and there was a sick feeling at the pit of his stomach. He turned his head to look at his friend. Bill seemed turned to stone. He did not move when Jugs touched his arm.

Ants! Jugs said to himself. But ants don't make ghastly noises like that. Or do they? Big ants! Prehistoric ants! Don't lose your head, you idiot. Relax, relax. Emus. Why, of course. Emus on night march. Why hadn't they thought of that before? Long necks like masts. Only

emus don't crack whips. No, not emus. Not anything you could give a name to. Good heavens! What was that?

A hideous chuckling noise was coming up out of the pit of the desert. As Jugs strained his eyes against the dim light, he was aware of a faintly acrid tang in the air. He heard a gasp from Nugget, followed by a choked, "Mamma, mamma!"

Over the misty background of the moonlit plateau, a score or more of tall black shapes, swaying fantastically from side to side, had come suddenly into view.

Chapter 6 *The Ant Men*

WITH TENSE faces, the little group on the rock summit stared down at the incredible figures forming and re-forming, as they advanced slowly over the glistening pans. In their eagerness to see they forgot a little of their caution, but fortunately the edge of their refuge, studded with small knobs and ribs of rock running around its irregular sides, gave them a kind of low sheltering parapet. This served to conceal them from below. Peering through these convenient natural loop-holes, they could see without being seen.

There was something frightening in the spectacle before them. For the first few moments, until they were able to take a firm hold of the unnerving reality, each man felt he was in the grip of some horrific nightmare. How, indeed, could such things confront them in the waking state?

But the shapes on the plateau were solid and convincing enough. They were not the substance of dreams, but living, moving, three-dimensional creatures. And presently their outlines took on a more definite appearance. They appeared now to be enormous ants reared on hind feet—man-size insects, each with a single slender feeler or antenna jutting from the shining round black dome which was evidently the head of the creature. What shocked the watchers most was the uncanny touch of

the human about them. They appeared to be half ant, half man. There was no sign of the four membranous wings distinguishing the order of Hymenoptera to which they—if ants they were—rightly belonged; nor could Professor Orcutt, studying them intently, discover any signs of the usual six legs. The middle pair of legs was missing. The remaining pairs held a grotesque resemblance to arms and legs. They walked upright. Their movements, strange as they were, were yet somehow familiar. It was an intelligent co-ordinated movement; there was even gracefulness in it.

Bill, at Professor Orcutt's elbow, heard him muttering in an astonished undertone, "Sakes alive! I guess my wits must be running out on me . . ."

And then, almost immediately, the man of science took charge. He said, in a rapid whisper, "Reminds me of a blown-up lot of *Alta texana* ants out of the Arizona deserts. Right out of the crater nests . . . only these ding-busted things sure never heard of the textbooks. Certainly, the consanguinity of ants and men is a powerful ancient one. I guess they've evolved in separate lines since the time the first starfish crawled out of the hot salt sea and set up his tent on the dry land. I'd say *Formica sanguinea* gone mad, only there's no red in them, only black. *Bothriomyrmex decapitans*. Maybe not. I don't fancy those things sawing my head off like they treat themselves."

"Bill?"

Jugs was nudging him.

"Okay. Take it easy. But it's terrific!"

"I'll say it is. Look! They're walking. Walking! If they're ants they'd be crawling, wouldn't they? Even big as they are."

"Not ants," Dr. Wise's whisper came at their backs. "Ant Men. Keep still, whatever you do. Fortunately

there's no wind. Masts . . . antennae, of course. So long as they don't smell us—"

Jugs, hardly daring to breathe, found his mind running riot.

"But . . . Ant Men! It's all mad. Though it's true those things resemble both ants and men."

He twisted his head around to contact Dr. Wise.

"I've just thought, sir . . . Is it likely they could use their antennae not only for smelling but for picking up sound waves? After all, if they're half human, they could have evolved that far, you'd think. They *do* look like wireless aerials—those things sticking out of their heads. And not two antennae, as ants have, but only one."

A sharp "hist" from Nugget brought them all to silence.

The Ant Men had begun a new movement. It suggested that they were suddenly puzzled. Antennae were slowly rising and falling—probing in first one direction, then another.

The watching humans froze.

How long they remained thus, every nerve at high tension, they did not know. The strain was almost unendurable, when there sounded in the distance a faint, echoing crack. Immediately it was replied to by one of the Ant Men below. Close at hand, it had the dynamic effect of a small explosion, a sharp metallic spurt of sound that made their ears wince.

Almost simultaneously there came a loud hissing noise, as though someone had turned on a steam cock. From under the hooded head of an Ant Man, who stood slightly in advance of the rest, there shot a stream of gleaming liquid. The stench of formic acid came to their nostrils.

What its purpose was, they had no means of knowing. Afterward, Dr. Wise suggested that it had been an expression of anger, perhaps, or an involuntary action fol-

lowing upon some disappointment or interruption—as some men might spit in disgust.

The time was to come, however, when they knew it for something infinitely more significant.

A second whip call from afar, again immediately replied to from the plateau, sent the Ant Men striding into the mouth of the gorge. They moved now as men with a definite purpose move. But it was noticeable that their progress made little or no sound. They went swiftly, their erect, curiously luminous black bodies casting long moon shadows over the white limestone. One moment they were in full relief; the next, they had vanished. The plateau glimmered empty against the purple background of the gorge mouth. Or was it empty?

Nugget had started to say something in a hoarse whisper, but Professor Orcutt's big hand gripped his shoulder like a vise, holding him to silence. In the faint light Orcutt's ragged eyebrows could be seen lifting and lowering—always a sure sign that he was more than usually alert.

The minutes ticked on.

Bill ran his tongue over dry lips. He asked himself nervously, "What's on the Prof's mind now? They're gone, aren't they? Ant Men. Ant Men! Boy, oh boy! We're in a jam all right, but I wouldn't have missed this for all the tea in China."

And then, with suddenly constricted throats, they saw it.

It looked like a man in old-fashioned armor, stepping lightly and easily from out of the deep shadow of an adjacent rock pile into the full light of the moon. The hooded head was uncannily like a drawn visor and, so close was he to the base of their refuge, they could plainly make out the jointed scales of the body and legs, like overlapping iron plates from medieval times. The head of the Ant Man was tilted, as though he was searching the heights of the column on which they crouched.

There came another agonizing interval of sheer immobility on their part, in which time seemed to stand still, and a cold sweat sprung on their bodies.

Then, as suddenly as he had appeared, so he disappeared. He seemed just to withdraw, as a shadow withdraws.

The instinct that had warned Professor Orcutt of the Ant Man's concealed presence now told him that they were this time truly alone. Nevertheless, for some time they remained as they were, though continuing to talk in whispers. Dr. Wise, training his glasses on all sides for a full five minutes, finally gave them the all-clear.

There was an interval given to heavy breathing, and a stretching of cramped limbs.

"We've seen what we've seen," Professor Orcutt said. "Incredible though all this is, we must accept it. These Ant Men—we agree to call them that? So—these Ant Men, in reasonable hypothesis, we can take it, are survivals from the very dawn of earth's history, just as are the marsupials and all the rest of the queer fauna and flora which marks this part of creation. Here we may have an original stock which has persisted, because of unchanging conditions, all down the ages; or we may be confronted with an evolved ant, as the human species is believed by some to have evolved from a single privileged stock."

"It sounds okay, Prof.," Nugget said. "Me? I'd like to get outter this place soon's I can. To my way of thinking, a inseck ought to be a inseck, and not nothing else. This here Ant Men business is all right for scientific blokes, but no good for an old buzzard like me. I was hired to drive the utility, not spend me time dodging a drunk's nightmare."

Orcutt grinned.

"I guess, as things are, we'd all like to be back in a normal world, old-timer. The sooner the better. It will

need a properly fitted, well-armed and equipped expedition to handle a terrific discovery like this. Maybe we'll get around to it, if the numbers don't run out on us. Eh, Wise?"

"If we get safely out of this, it's my one hope, Orcutt. What a sensation, to return with actual proof! Nothing like it since Dubois turned up *Pithecanthropus erectus*, the erect ape man, in Java, in 1891."

Professor Orcutt's thoughts were running in their own groove.

"See here, Wise. What upsets me is wondering how many of these freaks there are, and just how much of them is ant and how much is man. If they're more ant than man, they'll be living under the earth. Imagine a city, a formicary, in the same proportion! Like a catacombs, I guess. You've a lot of underspace in this country. The caves under your Nullarbor Plain, for instance. You could have a formicary as big as New York or Chicago."

"It's fairly evident," Dr. Wise said, "that they only come into the open after dark. That conforms. Ants like warmth but not too much heat or light. They don't see very well, you know. Their eyes function much differently from ours."

"That's so. Assuming the Ant Men have compound eyes, as all ants do, they'll see moving things while anything holding still dodges their sight altogether."

Jugs exclaimed, "That could be why that Ant Man who stayed behind didn't see us—because we kept perfectly still. And he seemed to be looking right at us, too."

"Probably," Orcutt said. "Well, Wise, I guess we can take it they live down under and only come out on top after sundown. That means it's okay to travel during the day, so long as we hole up before dark. And right now I give these birds the name of *Formica Homo*. Won't the boys back home give me the laugh when I tell them? I'd

like fine to take a specimen back with me. That would certainly confirm our story."

"Got to get ourselves out first," Nugget reminded him.

"Sure. I'm not forgetting."

Dr. Wise said, "It isn't going to be easy. We seem to be pushed continually in the wrong direction. That naphtha pit, or whatever it is, is our main obstacle."

"I guess you're right. Well, it's up to Nugget. We owe you more than a dollar's worth already, old-timer, for jacking us up to the top of this rock."

Nugget grinned.

"Think nothing of it. We've learned this much: night travel is out; at any rate, until we shake clear of these here Ant Men. Get a bit of shut-eye now, is what I says. Make a start at sunup. Give the jungle a look-over. There's maybe a line there that'll head us north again. It's a fact, though, that the jungle didn't ought to be here at all."

"Sure. But it's there. We've got to adjust our minds to a kind of loony setup and make the best of it."

"My advice, Prof, is to travel light and fast. Jungle means water. Fill our bottles in the morning and leave the water cans right where they are. The water won't spoil for a day or two, and we'll know where to find some, in a pinch."

"Food?" Dr. Wise queried.

Nugget asked shrewdly, "What do the Ant Men live on?"

"Depends on the species," Professor Orcutt said. "Some of them eat fungus, and grow their own supplies. You get pastoral groups and thief ants, harvesters and fungus-growers. I guess big fellows like we've just seen would put away quite a bit. Say the human half of them has edged in the direction of human food, and we could easily find their food acceptable to us."

"Assuming also that their habits are subterranean,"

Dr. Wise added, "we can expect that food to be in the nature of edible fungus, mosses, honey, and so on."

"I suppose," Jugs put in hesitatingly, "they don't . . . eat each other? Cannibal ants?"

It was a new and disturbing idea.

"Time we stopped speculating," Orcutt decided. But he couldn't resist a final word or two on the subject. "If the Ant Men stripped that croc back there on the pans, then they're flesh eaters, as men are. But that's not to say they are anthropophagi."

"Mamma, mammal" Nugget complained. "You sure do tickle the dickshunry, Prof."

Bill said, "Man-eaters to you, Nugget. You say 'if,' sir. Aren't we sure it's the Ant Men who left that skeleton?"

"We have no proof of it, Carey. Ants, as I've said, live on what meat they can get hold of, as well as vegetable substances. But if there are Ant Men in this desert, why not other throwbacks to original creation?"

"Creatures," Dr. Wise said, "the Ant Men might find themselves opposed to in the mutual struggle for existence."

"Yeah, well," Nugget said, grunting, "that croc spells water, anyhow. And water means fish. And jungle means an animal or two."

"Not necessarily. Life on the crater surface could have been eaten out ages ago. That crocodile might have just wandered upstairs by sheer accident. Possibly that sort of thing has occasionally happened, at long intervals. All the noise we heard last night may simply have come from the Ant Men's excitement at the find."

Professor Orcutt cut short the discussion.

"Get your sleep while you can. We'll take it in turns to keep a lookout. First shift to you, Nugget."

"Okay. I'll rouse you out, young Jay, after an hour or two."

.

Presently, squatting on his heels near the edge of the monolith, his companions sleeping soundly, the old-timer went over his plans for the journey ahead. With all his desert experience, he was frankly worried by the outlook. It was not only the fantastic intrusion of a lost world that threw his mind out of focus, but the fact that while this desert was the same as any other desert, it held a threat quite new to him. The normal hazards existed, but on top of them was a feeling of unreality which even his sturdy common sense could not meet.

"She's old," he muttered, staring up at the great dome of night sky that seemed to fit the encircling horizon like a lid. "She's rotten with age, I reckon. I seen 'em here, and I seen 'em there, but never a one like this."

Nugget was hard and tough, but he was conscious of a chill down his spine, as his gaze took in the chaos of peaks and spines and shoulds, the black sink of the gorge mouth into which the Ant Men had vanished, the nearby bluffs slashed and scored by the weathering of aeons of time. He fought down his foreboding and turned to stare at the obscurity marking the jungle. He shook his fist at it.

"Yeah, I know," he mumbled. "Youse 'ud like to suck our bones dry, wouldn't youse? What's in your belly, I wonder. Waiting for us?"

He gripped his rifle more firmly and was angry to find that the palms of his hands were wet with sudden sweat.

"Ant Men!" He waved a hairy hand and sneered. "Lot of swelled-up insecks! Okay. We can shoot our way out."

He was still in this defiant mood when Dr. Wise came quietly to relieve him.

"I've been awake for some time. Seems a pity to rouse Gray. Let the youngsters get all the sleep they can. Everything all right, Nugget?"

"I guess so, Doc. What d'yer make of it?"

"We can only take things as they come."

Nugget nodded and turned in. To his subsequent surprise, he fell asleep almost immediately.

Dr. Wise sat quietly smoking. He did not rouse any of the others until the night was spent. The crack of dawn found them assembled once more at the foot of the rock. Nugget had first gone down; he stood then with his rifle ready, while the others joined him. Bill descended last of all. With the rope coiled about his shoulders, he felt his way down the rock face much as he had felt his way up it.

And suddenly it was day.

Facing south, they saw before them the jungle face of tall, unfamiliar trees, fronted with an undergrowth of fernlike plants.

"Not a sign there of anything living," Professor Orcutt said. There were perplexed furrows between his bushy brows. "Well, I guess what life there is goes underground when the light comes. I can't say I'm not glad of that. Which way, Nugget?"

"There's a break to the right there. Okay. Let's go."

The rocks were smeared now with a kind of gray lichen. There was a dank smell out of the reddish sand that crumbled under their feet. Overhead, trailing limbs radiated like giant starfish.

Orcutt said, "Ugh! Ugh! Say . . ."

The next moment all was confusion.

Jugs, making up the rear with Bill, had a breath-taking impression of something black and shining rising from the tangle of creeper in their path. He heard Nugget's wild warning shout, then saw a thick jet of silverish liquid spurting from the Ant Man's beaklike mouth, to miss Dr. Wise by a fraction.

Then, as a shot rang out, came Professor Orcutt's bellow, "Run! Run for your lives! This way, Wise . . ."

The fumes of formic acid were tearing at his throat as

Jugs bolted after Bill. They ran blindly, so taken by horror that it was not until they found themselves once more in open desert, crouched in the hollow of an enormous rock pile with the detritus of ages strewn about them, that they were able to take hold of their senses again.

"Good grief!" Bill choked. "They use acid for a weapon, Jugs—a weapon! What chance has a man got against a thing like that?"

Chapter 7 *Desert Low*

FOR A FEW minutes they were silent, each busy with unpleasant thoughts.

"Where are the others?" Jugs asked presently.

"Search me. Looks like we've completely lost contact."

"If that Ant Man . . ." Jugs came to a halt.

From down in the jungle came a dull explosion.

"That's no rifle!"

"Could be some gadget of the Ant Men."

They listened tensely, but there was only the throbbing heat.

Bill said disgustedly, "We shouldn't have panicked that easily. What will they think of us?"

"You don't stop to reason things out when the balloon goes up without warning, pal. Only safe thing to do was to scatter. I wish I knew how their luck is."

"Supposing . . ."

"Don't let's suppose anything. We'll know the truth of it soon enough."

"Okay. Keep your shirt on," Bill said.

Jugs said, after a while, "Hi, Pommy!"

"Hi, Aussie!"

They grinned and shook hands.

"Any idea which way the big rock lies, Jugs?"

"No. I'm bushed."

"Same here."

They blinked at the open corner of yellow clay pan that divided them from the jungle. At its center was a ragged dead-finish bush, gray with alkali. The air quivered with heat.

Bill pushed the wet hair away from his eyes.

"How come that Ant Man was there?"

"Maybe we weren't as smart last night as we thought we were. He could have spotted us after all and waited for us to come down. Why doesn't something happen? We can't just stay in this place."

"Nugget shot him," Bill said.

"Shot at him. He missed. I had time to see that."

Bill reached for his water hottle.

"Forget it, pal. Here . . . if you're dry already, stick this pebble under your tongue. And stop licking your lips, unless you want to take the skin off them. Look, Bill, we don't know how long our water has to last us."

"Okay. I forgot, that's all. What d'you make of that explosion, if it wasn't some Ant Man weapon?"

"Boulder splitting in the heat, like Nugget told us. That chap mightn't have been snooping; he could have been a straggler."

"Getting home after a late party," Bill said and grinned.

"No time to be funny. What I meant is, if he was on his own it would take longer for him to pass the word along to his mates. An hour earlier, and they'd have turned out. As it is, they won't face a real sun. I think Doc Wise is right there."

"So what?"

"The others probably got away like we did. We've got to find them."

"Not safe to coo-oo-ee-e, I suppose?"

"Be yourself. You can't coo-oo-ee-e, anyhow. You make a noise like a busted rooster. I don't doubt we're

safe from Ant Men for the time being, but how do we know what other things are around?"

"Okay. Let's go."

Jugs got to his feet.

He said hesitatingly, "I don't see why not. But . . . I dunno."

"What's biting you?"

Jugs said, "Ah!" and drew his friend sharply back into the funnel of the rock pile. He pointed with a none too steady hand.

"D'you see what I see?"

"I get you. It wasn't there a moment ago. One of the mast things Doc Wise and I saw . . ."

"Ant Men! But it can't be. I swear Doc's right about their being scared of the sun. Some other . . . freak?"

They could see only the tip of the mast, or whatever it was, swaying gently beyond the far dip of the clay pan.

"We could all have been wrong about the other night," Jugs said quietly. "That's not an antenna. There were two sorts of noises you said, Bill?"

"That's so. The whipcrack—and we know that comes from the Ant Men, anyhow—and a chuckling sound, like a hyena."

"So that's it. The picture's getting clearer. There are two lots down there by the croc's skeleton: Ant Men and some other creatures . . . mast things."

"It sounds right, Jugs. Maybe that's what drew the Ant Men away from us last night—all but one, who must have remained behind on sentry duty or something. Remember, we heard a chuckling away over behind the plateau. Then the whipcrack call that the Ant Men answered. I guess now that meant some of their scouts had contacted an enemy. Look! That mast thing isn't alone. They're moving. They're coming this way."

What looked like three stout poles, about ten feet in height, had appeared over the edge of the clay pan.

Presently they got an impression of folded tripods. As the things came closer in, they saw them finally as thin-nish, bony, skeleton-like creatures topped by enormous heads. They were the color of burnt umber.

As they halted by a cliff face, swaying from side to side, they held a grotesque resemblance to shaven-headed priests, holding up their arms in an attitude of devotion.

Bill said incredulously, "Praying mantises! But look at them! They're as big as giraffes! So now we know what the mast things are. Mantises. Big Stick Mantises!"

"Gee whiz! Bill, look at that arm going out. It's got teeth all along it like a saw."

One of the creatures had unfolded a limb as big as a small crane, reaching out over a cliff gutter. It folded in again, dragging with it a copper-gleaming coil, over which the Big Stick bent its triangular head. A horrible chuckling noise came to them.

"It's got a rock python. Let's get out of here."

"Steady, pal. Our best bet is to stay put. Freeze, old boy. It's movement that gives things away."

Bill took a deep breath.

"What ghastly creatures!"

"And that's paying them a compliment. Yeah, the sequence is pretty plain now, Bill. The Ant Men had started on the croc when some Big Sticks turned up. There was a bit of a struggle—accounting for the formic acid—but the Ant Men, maybe outnumbered, weren't taking on a real scrap at the moment. They just scrambled. That was what all the cracking and chuckling was about. The Big Sticks cleaned up what was left of the croc. Later, the Ant Men sent out scouting parties. We saw one of them last night."

"That seems the way of it. Thank heavens, they're turning away. If they hadn't found that python . . ."

"They could have found us," Jugs said, shuddering.

"That's right. Well, in that case, there'd have been some rifle practice. I don't fancy being sawed up the way that snake was. Those Big Sticks are walking sawmills. No wonder the Ant Men handle them cautiously."

Bill, wiping his sweating face and neck, said, "Assuming the Ant Men live underground, it would be hard for the Mantises to get at them. Nice work. For I don't mind telling you, I'd sooner an Ant Man got me than one of those horrors."

"Prof reckons they do live underground. You heard what he said. Except for tree ants, the rest lead subterranean lives, except when they have to be out and about, fighting or foraging, or whatever it is. The ant nest is a bit of real architecture; it's built in flats, with pillars and wall partitions, passages, and whatnot—like we build our houses. There'll be a formicary somewhere under the desert, like Professor Orcutt said. An Ant Men city. Makes you think, doesn't it?"

"I'm past thinking," Bill grunted. "And this heat is burning me up. How about you?"

"If we keep to the left of the pans," Jugs reckoned, "we should be all right. It's not only the sun we're feeling, pal; it's partly the millions of years of stored-up heat in these rocks. No wonder they often crack up under it. Well, what do you know?"

Almost over their heads had come a sudden tremendous concussion. A rain of dust and rock debris showered within a few yards of them. A portion of sun-split boulder hit the pan bottom with a thud like a cannon ball.

"What a life!" Bill groaned. "Even the landscape takes a poke at you. Let's get out of here."

It proved more difficult than they had thought, to find their way back to somewhere approximately close to the spot from which they had stampeded. Their tracks showed faintly on the pans, but were quickly lost on the

intervening surfaces of lava flow. This was as smooth and solid and blackly gleaming as when, countless ages before, it had flowed in a molten stream from a fiery upheaval of the desert strata.

"You know," Jugs said, "I must have been frightened, all right. I don't even remember crossing these pans; though we sure did, for you can see where we scooped the ground up. I guess we broke the Olympic record for a quarter-mile with a great big bang."

They headed at random for the nearest peak of gray-green jungle. Once in its shelter, the rasping heat of the bare sun gave place to a steamy warmth like that of a greenhouse. Underfoot was a carpet of coarse moss, covered with fungus-like tendrils. Above stretched the tangled canopy of the misshapen trees. Rock piles crowded against the soggy boles of cycad and palm. Over all was a silence, broken only by the sounds of their slow, cautious progress.

They stumbled suddenly on what appeared to be a large green mound, pressed close to the earth like a mushroom. Some instinct made them halt.

"Some sort of midden, maybe?" Bill speculated.

"Fungus, I reckon. And a mighty big one."

At that moment something fell from an overhead frond to land within a foot of the queer mound. What it was, a small animal or some sort of jungle fruit, they had no time to decide, for the green mound split suddenly open. It writhed sideways with incredible speed, scooping itself under the fallen object and folding its edges over it. The gap closed abruptly. The green mound quivered a moment, then subsided into its former quiet. Two round burning spots, like eyes, looked out for a brief instant from its side, then vanished.

"What is this place?" Jugs stammered.

Torn between horror and disgust, they sheered off

down a side aisle of the undergrowth. They did not pause again until they came out on the farther side of the jungle patch, where they sat to rest in a shaded hollow on the edge of a desert strip.

"Okay," Jugs said hoarsely. "I guess we've earned a drink."

They filled their mouths from their water bottles, swallowing slowly, almost drop by drop.

Bill said, "This is the limit. Some kind of toad or animal fungus. In this place, anything's possible."

They stared at each other.

"Hi, Aussiel"

"Hi, Pommyl"

They grinned.

"What do we do now?"

"I know almost everything, Bill, but not the answer to that one. If the others got clear and are looking for us, nobody would know it by the look of things."

"Or the sound of them. Shouldn't we shout?"

"And get the Big Sticks right on our necks? We're in a jam. But don't panic, pal. Let's sit and do a bit of thinking."

Jungle at their backs. In front of them a burning waste of rock and sand. Beyond, the wavering outlines of further jungle. And in their minds a series of nerve-racking memories.

Jugs shook his shoulders.

"This won't do. Let's see now . . . The general plan was to travel north. Over in that direction—right. To begin with then, we must cross this fresh corner of desert. We'll have to chance any likely Big Sticks. No Ant Men, while the light lasts. But still a possibility of other enemies, apart from the Mantises. If we don't meet up with the others by sundown, we find a rock someplace and skin up it. Okay?"

"Only thing to do. Look, though, what about letting off a shot?"

"Better not. It could attract unwelcome attention. And with the sun popping rocks off every now and again—listen, there's one just gone—it would be hard to distinguish between the two sounds."

Bill sighed.

"You're right. Come on then."

"Atta boy. We'll make an Aussie of you yet, Pommy."

"I don't care to be, while there's a hole in a creek I can go jump in. Better keep to the gutter bottoms, hadn't we? Less chance of our being seen by anything that's about."

"How right you are."

No sign of life greeted them. Only once, high above them in the burning blue, they caught a glimpse of a great bird. It could have been a wedge-tailed eagle, one of the largest birds of its kind in the world, and one that does not fear to attack even as large an animal as a kangaroo.

And once, also, it seemed to them that the air moved to a faraway chuckling of giant Mantises. But this failed to disturb them. Their minds were momentarily centered on the eagle—something from their own world that put them in touch, if only for a moment, with accustomed reality.

It was not until an hour later that they struggled out of the desert into the new jungle.

Bill was the first to catch sight of the sheet of paper wedged into the crack of a basalt column.

"We're on their heels, Jugs. Look—a message! Talk about miracles! Imagine us coming right out on top of that, in all this beastly helter-skelter."

It proved to be a note from Dr. Wise, hurriedly scribbled out and torn from his field notebook.

Boys—In the bare chance you may come across this. The Ant Men have taken Professor Orcutt prisoner. His plight is the most desperate, we think, so Nugget and I have decided to follow him up, instead of yourselves. We think there is an entrance in the cliff face about a mile north by west from where you found this that may lead underground into a formicary. Look for a red pinnacle between two rock bluffs. We'll be somewhere around.—Wise

There was a postscript:

We only managed to get clear because Nugget spilled his tin of petrol over the open ground between us and the following Ant Men. I set fire to a piece of dried fungus and threw it back, and the fumes of course exploded. It threw them into confusion and we got away. Keep your heads whatever you do.

"So they've got the prof," Bill said soberly.

"Yeah. That's a blow, isn't it, pal?"

Bill said, "That was the explosion we heard and couldn't account for."

"Yeah. Nugget didn't say why he had the stuff with him, but I guess I've known all along."

"You don't say. For just what he used it, I suppose."

"He was saving it for a desert stove, as they call them, in case we found ourselves with wood for a fire."

"What sort of a stove is that?"

"You fill a tin with dry sand," Jugs said patiently, "and pour petrol into it. When the worst of the fumes go off, you can light the sand. The sand acts like a wick. You can cook a great meal over a desert stove."

Bill said, "Well, that's another wrinkle on my horn. It's sure a bad business about the prof. They . . . you don't think they . . . the Ant Men . . ."

He left the sentence unfinished.

"Doc Wise doesn't seem to think so," Jugs said, picking up the wretched thought. "All depends on how the

prof shapes up to them, I'd say. Fortunately, Nugget's shot missed. I saw that myself, as I told you. So they probably won't harm the prof right away, anyhow. Meanwhile, Doc Wise is right. First job is to rescue the prof while the going's good."

"Knowing the habits of ants, and so on," Bill said, as they prepared to move on, "the prof might be able to figure out a way to keep safe, until we catch up with him. Especially as they've a human side to them, eh?"

"Yeah. No harm in hoping. Anything you say goes."

Chapter 8 Capture

UPON THE totally unexpected appearance of the Ant Man, Nugget, like his companions, was thrown into confusion. As the jet of acid went hissing past them, he had lifted his rifle and fired. Thrown off his usual balance, however, he had missed badly. It made him curse his clumsiness. If he had killed their opponent, however, Professor Orcutt probably would have been killed on the spot.

As it was, the appearance of a number of other Ant Men and Orcutt's warning shout changed his mind about taking another shot. For only a moment he stood hesitating, dimly wondering why the Ant Man himself had not fired a second jet of acid. Could it be he had to wait for the acid glands to be recharged?

Professor Orcutt had turned for cover. Unfortunately his foot caught in a trailing vine and he went down heavily. Within seconds, he was surrounded.

Nugget, chancing to look back over his shoulder as he dashed to join Dr. Wise, half lifted his rifle. But he lowered it immediately. For one thing, he was afraid he might hit Orcutt; for another, he realized that immediate rescue was out of the question. At least a score of Ant Men were in view, and the foremost were already taking up the pursuit. There was only one thing to do, and he did it. He ran wildly after Dr. Wise, somehow

aware that they two were alone and that Bill and Jugs had disappeared.

Half blinded by the acid fumes, Wise and Nugget stumbled for cover. In ordinary circumstances they could not possibly have escaped, for the Ant Men were gaining on them fast.

"No good, I'm afraid," Dr. Wise gasped.

"Keep going, Doc. I got an idea. Got your matches?"

"Yes. What . . ."

The old-timer gritted, "Grab a bit of dry grass, fungus. Be ready to light it."

He himself was wrestling with the flap of his pack. He found the tin of petrol, tore it loose. His muscular fingers literally wrenched free the round screw top.

Halting, he looked back.

The foremost Ant Man was within twenty yards of them, running surely and swiftly, but with a curious stiffness—like an automaton. Had it been feet, instead of yards, Nugget's stratagem would have failed ignominiously, for the range of the acid jet was limited to about twenty feet.

"Mamma, mammal" Nugget muttered.

With a sweep of his arm he sent a wave of petrol splashing across the pumiced ground. He yelled, "Now, Doc . . . Chuck in a flame and duck for your life!"

Dr. Wise, quick on the uptake, was already holding his lighted fungus in readiness. He hurled it past Nugget, then turned and ran on.

They could only guess at the effect upon the Ant Men of the explosion that followed. They were certainly not close enough to get more than a slight concussion; they would escape injury. Nevertheless it must have halted them in consternation, for when the refugees next looked around, all they could see was a thin haze of smoke. Of the Ant Men there was no sign.

"That stopped them," Nugget said, with a grin.

"Mamma, mamma! Suppose that'd been a patch of spear grass or spinifex, instead of pumice stone, I'd have set a fire going in the jungle. Glad it ain't that way. We got enough on our hands as it is, I reckon."

"Where did the boys get to?" Dr. Wise asked abruptly.

"Dunno. They're smart kids . . . They'll pick us up, or we'll pick them up."

Dr. Wise was trying to get back his breath. His lungs rasped with alkali dust and his eyes smarted. He sat staring at the lava mountains seen through a gap in the jungle. Their rims were blood-red under the fast climbing sun. On the pans, a funnel of sand smoke was slowly rotating like a gray-green genie out of a bottle.

"I'm worried about those boys. But Orcutt comes first. Can we track Ant Men, I wonder?"

Nugget grunted, "Why not? They must make some sort of a track. No animal pads here to confuse us, anyhow."

Dr. Wise got unsteadily to his feet.

"Then the sooner we try it, the better. Before the sand drift covers everything up." He had a taut note in his usually placid voice. "I'd give anything to know where Gray and Carey have got to. You don't think they have been captured?"

"No. We drew the chase, Doc. As to where they are, they could be anywhere in this dead sink of crater."

Dr. Wise wiped the sweat from his eyes. He grinned and said, "I'm not as young as I'd like to be. A bolt like this takes the wind right out of me."

"Same here. Bellows is all worn out. And me heart's bucking like a wild horse. You listening for something."

"I thought the lads might possibly call."

"Young Jay would see they didn't," Nugget said. "He's got the makings of a real bushman, that kid. Anyhow, we wouldn't hear, unless they was real close, for a day

desert smothers sound. Nights it's different. Air's tighter, I reckon. As I see it, Doc, young Jay would work out that while maybe the Ant Men will be underground now, there could be other tough guys around here. Them freaks that got the prof was only a bunch of stragglers."

"From which fact," Dr. Wise said thoughtfully, "we may safely deduce that the nest, or formicary, isn't very far away."

"Just what I was thinking."

Nugget, squinting at the heat-ridden pans, said, "We'll get around behind that tongue of scrub and then turn north again. That way we'll cut any tracks the Ant Men made."

Dr. Wise nodded agreement. He said, as they started off, "I'm not letting myself be too hopeful about Professor Orcutt, in spite of what we've decided. He may still be alive, or he may not. Did you see what actually happened?"

"Yeah. He tripped and they got him. He went down, anyhow. Maybe he didn't trip and some of the acid got him. I just missed out myself. Some of it sprayed my neck and arm."

"It did?" Wise said with sudden interest. "Can you feel any effects?"

"Why, now you menshunt it, Doc . . . no, I don't. I can still get the stink of it, though."

"Queer," Wise said.

He could find no trace of a burn on the knotted arm Nugget held out for inspection. He eyed it frowningly.

"You're certain it touched you?"

"Strike me pink if there's a word of a lie in it. It felt like a spray of water. Just a moment, though. That's right. Some of it got in me nose and I got a bit dizzy like for a moment."

"There's this possibility," Dr. Wise said, after a brief consideration. "Say this jet of formic acid is one of the

Ant Men's weapons—perhaps the only one. It could kill; but it might also serve another and a secondary purpose."

"As which?"

"Supposing," Dr. Wise went on, his thin face lighting to the eager trend of his theory, "supposing, Nugget, they have a way of watering down the . . . shall we say, the war acid, by some natural chemical process, over which they have control, so that it will not kill, but anesthetizes."

"What's that?" Nugget asked, in a startled voice.

"Chloroforms them, if you like. You know what that is?"

"Yeah. Well, why didn't you say so? Knocks 'em cold like."

"They could hunt what small game there is that way, do you see? You said the acid spray in your nose made you feel dizzy. Exactly. It seems likely that had a full dose touched you, you'd have become insensible."

Nugget said, "Mamma, mamma! I get it. But, listen, Doc, we wasn't game . . ."

"How do we know they didn't think we were? We must look as strange to them as they look to us. So that Ant Man didn't want to kill, he merely wanted to capture. He wanted to satisfy his curiosity. If we were just some new kind of animal, then all right. If we turned out to be dangerous, then we'd get the killer jet."

"Suffering Moses!"

"It's only a theory," Dr. Wise said apologetically. He was a little annoyed at finding himself side-stepping the scientific approach. "But we can't go by ordinary rules here. An Ant Man is impossible, to begin with. There's no such thing as an Ant Man—or what we are calling an Ant Man. Science doesn't recognize him. We have to fall back on the evidence of our senses, Nugget."

The old-timer grunted. His faded, sunburned eyes

ceased their steady scrutiny of their surroundings to lift a moment to the doctor's face.

"You mean we got to outsmart them big insecs?"

"That's one way of putting it. We can only approach this problem through our wits."

For a long time they held to silence.

"See there," Nugget said, pointing.

Through a rift in the jungle they could see the flat top of the rock column where they had sheltered overnight. It looked curiously unsubstantial in the dancing heat waves.

"Now we know where we are," Wise said. "No signs of the boys."

"Nope."

"Think we can get around that on the far side?"

"I guess so, Doc. But keep your ears pinned up."

Ten minutes later they cautiously approached the spot where the Ant Man had ambushed them. It was deserted. While Nugget stood by with his rifle, Dr. Wise searched the surrounding jungle. It was a relief to find that no evidence was there that could point to Professor Orcutt's immediate bodily harm. Knowing nothing as yet of the giant Mantises, each of them had been burdened with a horrifying mental picture of the glistening skeleton on the pans.

Reversing their roles, Nugget scouted to cut the Ant Men's tracks.

"Here we are, Doc. Pumice ain't exactly a noospeper, except for the boongs, but you can see where something's been dragged up that red sand bench. Yeah, they got him all right. Well, here's where we start creeping."

"Not quite yet, Nugget. We'll first go back to the edge of the desert and leave a note, on the bare chance the boys may find it. White paper against the yellow and brown of the rocks should sight quite a long way off."

Nugget agreed it was a good idea.

"One chanst in a thousand, I'd say, though. No harm done, anyway. Give them Ant Men something to chew over in any case, if they run across it."

By the time they had found a likely spot and Dr. Wise had written a brief note, it was close to top sun. They made their way through the almost unendurable heat to the red sand bench and flopped down in a patch of rock.

"Can't do a thing now, Doc. Wait till she cools off a bit."

"Only thing to do, Nugget."

Barely a mile to the east, Jugs and Bill also crouched in what shade they could find. They had read and re-read the message they had providentially found, within almost minutes of its being placed there. But for the extreme caution of both parties, they would have come together then and there.

As it was, the terrain hid them from each other. Dr. Wise and Nugget had headed back on their tracks, while the two boys had turned aside at random and settled down to wait for the heat to ease a little. They were talking in excited undertones.

"Rotten luck about the prof," Bill said for about the tenth time. "It could be good night for him. I've been figuring things out a bit. If one of us had to be made a prisoner by the Ant Men, far better it was the prof than any one of the rest of us."

Jugs stared.

"Okay. It's far better. Now tell me why."

"Because, don't you see, he's the one who knows all about ants. That's only a sideline with Doc Wise—I've heard him say so. But Professor Orcutt has written books about the social life of ants. He's studied them for years. If anyone could, well, sort of get in touch with their minds, it's the old prof."

"It's an idea," Jugs conceded. "The Ant Men's view would be—friend or enemy?"

Bill said, "Reckon the prof couldn't be mistaken for anything but a friend, even by an animal. He's got brains, too, and he'll use them. If he can once let them know somehow that they—ants, anyhow—aren't altogether new to him, that he's looked them over for years and knows something of their habits and so on, they'll be curious. They will want to know something about him . . . us. So, for a time, anyhow, they'll not harm him."

"I hope you're right."

"Ant Men, Jugs. That suggests they'll partly think as we do."

"Maybe. They *look* like men . . . or, rather, like ants turning into men. But that doesn't say they are. It could just be coincidence, you see."

"Mightn't be evolution. They could have been this way right from the start . . . not ant men, or men ants; just as they've always been, so they are now. Like other living fossils, the platypus and the echidna and the big 'supes."

Jugs grinned.

"He means marsupials, ladies and gents. Monotremes, as Doc Wise would say if this were class. Neither true reptiles nor true mammals. In short, Ant Men. You almost convince *me*, pal."

"Think nothing of it. I like to get things straight. Where I come from, if a cow looks like a cow, it is a cow."

"In good old Aussie," Jugs said, "a cow isn't always a cow, especially if it's a fair cow. Meet the local idiom, Pommy. The mess we're in right now is a fair cow."

"Idiot slang. I suppose the Big Sticks are fair cows too?"

"Too right."

Bill said in disgust, "More of your haywire vernacular."

The joking did them good; it helped to keep their spirits up.

When it was a little cooler they took up their march again. But now they had a definite objective.

Bad luck, however, continued to dog them. They came on what they thought was a pan of bright moss green and were well on it when it proved a quicksand. They fought out, by dint of tremendous exertion, and followed exhaustedly around the treacherous borders until they came again into the steamy twilight of the jungle proper.

By then the desert bottoms were growing dim. They could, however, just make out a red spire which they decided was the one given them as a landmark by Dr. Wise.

"Must be," Jugs said. "But . . ."

Bill understood him.

"Too late to make for it now. Okay. That means a night on our own."

"Yeah. We can't risk it."

Bill said, "Listen!"

Very faintly they heard the chuckling and hooting of the giant Mantises.

"Hard to get the direction," Jugs said. "Sound blows all around the compass in this horrible place. What do you think? Stay here, on the jungle edge, where we don't know what's what? Or get out on the pans and benches, and find a hide-out?"

"Pans."

"That's what I think. The Ant Men might be able to climb, but I doubt if the Big Sticks can."

"They can reach, though. Boy!" Bill had a vision of the rock python being hauled from its rock lair. "How they can reach!"

"Like the arm of a crane."

They chewed over this for a time.

It was growing steadily darker, but there was still half an hour or so, Jugs reckoned, before night snapped down, after the manner of the desert. They were less likely to be seen if they left their run till the last minute.

"Looks like there's a war on between the Ant Men and the Big Sticks. Probably they're historical foes. Survival of the fittest. Changing climate had a lot to do with the wiping out of other prehistoric monsters, but this crater has obviously stayed put. Maybe the Ant Men and the Big Sticks have between them got rid of early rivals, and now they're at each others' throats."

"I'd say so. Ant Men under the ground, and the Mantises on top. The formicary must be well guarded, you'd think, or the Big Sticks would have rooted the Ant Men out long ago. They can't stand the hot sun and the bright lights, so they can only go after the Mantises in the nighttime. They're pretty evenly handicapped."

"It's all a beastly nightmare," the English boy shuddered.

Jugs nodded soberly.

"Time we got going. And, listen, tomorrow—if tomorrow ever comes—we've got to find Doc and Nugget somehow. We've water for about another day, with care."

"Must be water somewhere in the jungle, surely. The Ant Men probably get their supplies from the underground river that crocodile crawled up and out of. But the Big Sticks wouldn't have that. So there must be water on top. Mantises have to drink."

"I can't see why," Jugs cracked. "But I suppose they do."

They got to their feet and grinned at each other.

"Hi, Pommy!"

"Hi, Aussie!"

"She'll all come right, you'll see."

"Please God," Bill said.

Chapter 9 *The Battle of the Pans*

FOR SOME time Dr. Wise and Nugget had been following the course of a wide expanse of flat gray pumice stone, frothed and bubbled at its edges in the wavelike formations in which it had hardened aeons before, as it poured from the crater pipes.

"Stuff we used for getting ink off our hands when we was kids," Nugget said reminiscently.

"It's still useful for that," Dr. Wise said. "And for polishing ivory, wood, marble, glass, and so on. Even skins and parchments. And the old Romans used it for shaving."

"Yeah, I know." Nugget gave his companion a suspicious glance. "Them Eskimos and Laps up around the North Pole let their whiskers freeze and then break 'em off in lumps."

"I wasn't joking, Nugget. They really did use pumice for shaving. They rubbed the hair from their faces. A painful process, no doubt, but quite effective."

"Okay, if you say so, Doc."

The pumice flow was crisscrossed by weathered gutters, and in the hollows was a thick lava dust that sparkled in the slanting rays of the declining sun.

"Lots of them things the prof is so crazy about," the old-timer grunted. He stooped and picked up a handful of

pebbles. They were like dark glass, rounded on one side and flat underneath. "Reckons they come out of the sky, don't he?"

"Obsidians. Volcanic glass. They're usually black like these are, but there are other colors. Silica and alumina, with a little potash and oxide of iron." Dr. Wise cleared his throat. As Jugs would have said, had he seen him then, he was for the moment transported back to the classroom. "Pliny says the name comes from Obsidius, who first found it in Ethiopia. Now the Romans made use of what we might call obsidional coins . . ."

He came to himself a trifle confusedly.

"Er . . . I'm afraid I was rambling a little."

"Don't mention it. Rum things, ain't they? I like the little-uns best."

He dribbled a handful into his pocket, idly noting the soapy feel of the small stones among them.

Dr. Wise, whose thoughts were now with their missing companions, said, "We'll have to find water, Nugget. It is underground, I fear. The Ant Men would build their formicary close to water, of course. We have a twofold reason for discovering it now. We must somehow find and rescue the professor and replenish our water bottles. For we dare not return to our cache on top of the rock column."

Nugget, in the lead, was not listening. He was almost at the crest of the quartz ridge they were climbing when some sharp instinct brought him to a halt. He turned around, his fingers on his lips. Dr. Wise had observed the caution, then dropped on his hands and knees, thus completing the last few feet of the ascent.

His bushman's sense had served them well.

For, as he raised his head carefully to take stock of what lay ahead, he saw, a bare hundred yards away, the gaping mouth of a cave or tunnel at the base of a great cliff. Ant Men were passing and repassing in and

out, in the same seemingly confused manner of ants anywhere issuing from their nests.

It was now close to sundown. Direct glare had given place to a muggy heat. The great underground formicary was coming to life.

Dr. Wise, crouched at Nugget's side, marveled at the sight.

"The black Ant Men seem to be the only ones with antennae—acid throwers. They'll surely be the soldiers of the community. See . . . If they follow the soldier ants we know of, they'll have larger jaws than the others. You can see their jointed abdomens; like armor. They'll have books at the end of their jaws."

"There are some green ones, and red ones, just coming out," Nugget grunted. "They've got two of them bits of hosing sticking out of their heads."

"Probably ordinary citizens. They have such a human look about them, we can speak of them that way. Here are some without any antennae at all."

"Yeah, I just seen them."

"The neuters, I suppose, Nugget. The workers. Neuter even to their color, too—a plain gray." In his excitement, Dr. Wise quite forgot the circumstances, and added, "I wish Orcutt were here to see this. We discussed the probable synthesis of Ant Men society, and this is substantially as he imagined it."

"Yeah," Nugget said dryly. "Well, seeing where he is, Doc, I guess he's got a front seat in the show."

Dr. Wise, realizing his blunder, groaned.

"I trust he's unharmed. The soldiers are forming up . . . extraordinary!"

He half rose to see better and was violently jerked back by the old-timer.

"Snap out of it, will yer! Want an acid bath or what? Yeah, something's stirred up the nest all right. Hope it ain't a scouting party meaning to hunt us down."

The open space before the tunnel mouth—for they knew it must be a tunnel now—was alive with Ant Men. The black, shining soldiers were moving with a military precision that was uncanny. The two watchers could easily pick out the officers, for they stood apart.

"I'll go hopping!" Nugget mumbled. "Them insecks could be on a parade ground, the way they act. We better leg it outer here."

"Where to?" Dr. Wise asked grimly.

He made a motion with his hand to indicate the jungle at their backs. Along its borders could be seen a steady line of gleaming figures—Ant Men on a detour march.

"I get you," Nugget said.

They flattened themselves and froze.

"Of course," Dr. Wise whispered, "their soldiers would be black. They only come out to fight at nighttime. The color is a natural camouflage, don't you see?"

"Soon's we get a chance, Doc, we'll make back fer the desert. I can't make out why they ain't seen us."

"Poor eyesight," Dr. Wise suggested. "So long as we keep still, and provided none of them stumble right on us, I think we're safe enough for the moment. They don't expect us to be here, you see, and so they're not trying to smell us out with their antennae."

"Them acid hose pipes?"

"No, no. The acid comes from their beaks, or mouths."

"Well, what d'yer know!" Nugget said disgustedly. "I muster got mixed up. We live and learn. Mamma, mamma!"

"If only the boys would show up!"

"Quit worrying, Doc. They've got what it takes. Maybe they'll find that note, after all. Listen! Them big sand hills we saw about an hour ago'll make us a night hide-out, if we can get to them. We still got some water, and termorrow's another day."

Even while he was speaking came the miracle of sun-

down. One moment the walls of the valley shone with the copper stain reflected from the burnt-out sky, dusted with a smoke of sulfur and borax drifting out of the desert sinks; the next, darkness covered them like a blanket. Only the precipice heights remained faintly discernible against the star-pointed horizons.

"There's wind coming," Nugget said. "You can't miss the meaning of them alkali whirls we seen a moment ago. Prob'ly before sunup, though you never can tell. If that's so, we gotter dig in underground someplace. A desert sandblast can take a man to pieces."

"Meantime," Dr. Wise said, as they got stiffly to their feet again, eyes and ears alert to catch the faintest signs of their discovery by the Ant Men outside the formicary, "meantime, Nugget, we must get to our refuge before the moon gets up."

"She ain't due for a coupler hours yet, Doc. You pussy-foot behind me. I guess I can find that sand hill all right. Not more'n a mile or so west, I'd say."

The old-timer's sense of direction held them clear of major obstacles. They could only travel slowly, however, and it was not for some time that the huge sand hill they were seeking suddenly loomed ahead of them. A faint mist in the east told of the rising moon.

They floundered over a succession of sand gutters, finally arriving at one more deeply bottomed than any they had come to. It appeared to be the last barrier guarding the sand hill.

"Take it easy, Doc," Nugget whispered. "Could be part of that naphther cut. Lemme show you."

He began to feel his way down the crumbling slope toward an obscurity that swam black as a pool of ink. Suddenly Dr. Wise's hand fell on his shoulder.

"Something's moving down there."

The old-timer stiffened. Straining his eyes against the

pitch darkness he listened, his trigger finger taut. The seconds slid by.

And suddenly, right beneath them, a low whistle came.

"Mamma, mamma!" Nugget roared, forgetting all caution. "If it ain't youse kids!"

The excited voice of Jugs rose in greeting.

"We heard you coming. We thought you were Ant Men. Bill was wanting to shoot . . ."

"Yeah," Nugget said. "Young Double-you, you couldn't hit a haystack."

He let go and slid to the bottom, Dr. Wise at his heels.

The next moment they were wringing each other's hands in fervent reunion.

"Thank heaven," Dr. Wise said. "We've been very afraid for you."

"The professor?" Bill asked anxiously.

"No news. But we've discovered the formicary. We think he must be there."

"Cheese it," Nugget growled. "Youse can swap lies later. Up you go, youse kids, to the top of the hummock. Keep your heads down. And watch the sand don't get into your rifles. You may need 'em yet."

They were almost winded by the time they had plowed their way to the top. It was flat, as they had expected, but pitted with small wind craters. They chose a slight depression close to the edge overlooking the direction from which Dr. Wise and Nugget had come, and threw themselves thankfully down.

"Now?" Dr. Wise said, when he had recovered his breath. "Your story first, boys."

Between them, Jugs and Bill related their adventures.

"Mantises!" Dr. Wise exclaimed.

"Whoppers. Weren't they, Bill?"

"Aren't they, you mean."

"Wise guy."

"The tigers of the insect world," Dr. Wise said, with a shudder.

"But these Mantises—you should see them. As big as steam cranes."

Dr. Wise said thoughtfully, "Probably no other insect has been the subject of so many legends and superstitions; derived, no doubt, from traditions of the very same enormous mantis, of which we have survivals in this crater. *Mantis religiosa*, the praying mantis. The ancients gave it saintlike qualities. The Arabs even claimed that it prayed constantly, with its face turned toward Mecca."

Bill described how they had seen one of the Big Sticks pull a rock python from its lair and literally saw it in half.

"In each of the front limbs," Dr. Wise explained, in answer to Nugget's grunt of incredulity, "there is a channel armed on each edge by strong movable spines. I'm talking, of course, of the insect we know, but we can assume, after your experience, boys, that the giant Mantis is similarly equipped. In this groove, at any rate, the tibia closes like the blade of a penknife, its strong serrated edge being adapted to cut and hold."

"It was really your note that got us here," Bill said, after a while. "We worked it out we'd be safer on the desert than in the jungle."

Dr. Wise gave them an account of his and Nugget's adventures.

"Ant Men," Nugget growled. "We seen hundreds of 'em. Some of 'em is colored like a Christmas cake."

"You think the professor is still alive, sir?"

"Yes, Jugs, I do. We know now pretty well where he is. Somehow we must find our way to him. If we can only let him know that we are near at hand and waiting our

chance to rescue him, we shall have achieved something, at any rate."

"I don't see how we're going to do it," Nugget said gloomily.

"We can only do our best. Events must shape themselves."

Bill said quietly, "They're doing it now. Here is the moon, and here come the Ant Men."

Suddenly the desert changed. From a peaceful solitude it became a waking world alive with threat.

"Not Ant Men," Jugs said hoarsely. "The Big Sticks! Hundreds of them!"

The arrivals could be clearly distinguished now, as the moon drew clear of the amphitheater of the mountains. It was like looking down on a forest of masts slowly massing upon the gleaming pans. As with the Ant Men, the giant Mantises moved in complete silence. There was a stealthiness about them that reminded Jugs of a cat stalking a bird.

"They haven't the apparent order of the Ant Men," Dr. Wise said, in barely audible tones. "They move as individuals. No co-ordination. Strange."

"Just a mob," Nugget growled. "No bosses."

"Exactly."

"But what's doing?" Jugs queried.

"You tell us, Aussie." Bill gibed, more to keep his courage up than because he felt in a joking mood.

"Yeah, Pommy, I will. They're holding their annual meeting. You can see they're waiting for the chairman to turn up."

"One time," Nugget began, sensing their need to soften the grim realities as much as possible, "I was along prospecting in the Porcupine Ranges. Believe it or not, I—"

"We've heard that one," Bill said and grinned.

"Call me a liar," the old-timer said wrathfully.

Dr. Wise cut in, "Hold it, Nugget. I think . . ."

He was himself interrupted in a dramatic manner.

From the direction of the Ant Men's formicary came an explosive whipcrack that sent a long series of echoes rolling across the night air. It had the quality of a bugle call, and the effect on the horde of giant Mantises was startling.

The Big Sticks became instantly rigid. A moment later they became violently agitated. There came from them a furious clacking sound, followed by hooting and slobberings.

Dr. Wise said, "Dreadfull!"

The Ant Men were coming over the sand benches in a half-crescent, the points of which curved about the enormous pan on which their enemies were assembled. The moonlight touched their hooded heads and swaying antennae so that they shone like helmets and bayonets.

"Fantastic!"

"Mamma, mamma!"

And now to the hootings of the Big Sticks was added the angry crackings and hissings of the Ant Men, until the night was drenched with hideous noise. The giant Mantises had scattered into small groups. Their sawlike forearms turned from a travesty of prayer to a thrusting, rotating whirl like that of a rimless wheel. The clackings and gobblings gave place to a thunderous chuckling.

Spellbound, the small party of humans high on the sand hill watched the approaching struggle. The whole scene rose out of the desert before them with the sharpness of an animated cyclorama. Here was war between creatures removed from civilization by aeons upon aeons of crumbling time; prehistoric life so incredibly shaped that it could have sprung from the pages of a comic strip. It was impossible. It just could not be. Yet, here it was confronting their bulging eyes.

"What a sight!" Bill breathed. He was heedless of the sweat that soaked his shaking body. "It . . . scared me stiff."

"Same here," Jugs mumbled.

Dr. Wise said, in a thin voice, "The battle is joined."

It came with a fury so great that the air was torn with screaming slivers of sound. Against the glow of the desert shot the silver streams of the Ant Men's acid. Aimed with an orderly precision, they formed a hissing lattice pattern against the darting black bodies of the throwers themselves. The hooting of the Big Sticks, as they closed in, was deafening. Despite the acid of the Ant Men, which sent a smoke of burning from the Mantises' flesh, the cranelike arms of the Big Sticks darted here and there endlessly. They drew a writhing Ant Man into the teeth of the sawing tibias and shook it back in halves onto the surging clay pan.

The wind prophesied to Dr. Wise by Nugget had sprung without warning. It lifted the reek of combat to the humans on the sand hill and stung them from their nightmare inaction.

Dr. Wise was the first to find his voice. He had to shout to make himself heard.

"This is our chance. They're far too occupied to notice us. If we creep to the right of the pans . . ."

Nugget said, wiping his smarting eyes, "Good on yer, Doc. I guess I know what's in your mind. Likely they won't be guarding the fornicary tunnel too closely while the fight is on. If we can slip inside we might be able to lie doggo until we pick up the prof."

"Just my thought."

The battle was surging east. Under cover of the confusion, they slid down the western bank of the sand hill and ducked into the deep gutter where they had previously joined forces.

"It's pointing the way we're going," Nugget called

back at them, as they made their way along the bottoms. They were in half-darkness, with moonlight cresting the slope on either side. There were narrow gutters running in at intervals. "When it turns, all we can do is to make a break for the jungle."

Twice they came so close to the battleground above that the fumes of acid almost choked them. Once they stepped hurriedly around the crumpled body of a Big Stick, fallen to its death in the throes of suffocation. Once, too, they barely missed a small reinforcing party of Ant Men, who came stealing from a joining gutter like black ghosts.

The main gutter bent suddenly almost at right angles and Dr. Wise called a brief halt.

"We must take to the open now. Any idea how far jungle cover is, Nugget?"

The old-timer cautiously investigated.

"It's right handy, Doc."

"Good. Ready, boys? Now then . . ."

Above, the wind was coming in great gouts. It drove the fine sand into their eyes and mouths. They were almost blinded and had to fight for breath.

Dr. Wise yelled something, but the racing sand smoke smothered the words.

"Like being in a furnace," Jugs told himself. He managed a grin. "With all the doors shut. And the flue wide open. Oh, boy! What a life!"

It was in all their minds that had they encountered an Ant Man or a Big Stick during those last moments nothing could have saved them.

As it was, fortune held. They won clear to an open jungle glade, where they came to a panting stop. At their backs, the crouching desert still rang with snarling death.

"Wonder who's winning?" Bill said.

"The Ant Men, I hope," Dr. Wise said. "They, at least, have something human about them."

"Yeah, so do I." Nugget was at his old trick of scratching his leathery neck. "Not that I could care less, really, so long as we escape both bunches. Well, come on, youse kids. Playtime's over. There's work to do."

"What a nerve he's got, the old rhinoceros," Jugs said, trailing along with his pal. "You'd think we'd just come back from a picnic. Okay, we'll get even before long."

"Too right. How are things, Aussie?"

"Not so bad, Pommy. How's yourself?"

Chapter 10 *Strange Allies*

NEARING THEIR objective, Nugget growled a warning. "There'll be sentries, you can bet. Let's get our wind back and dig some of the sand out of our ears." "Sound advice," Dr. Wise said. He peered around him. The wind brought them echoes of the fighting still in progress. "What a battle of giants!"

"You said it. What's the office, Doc?"

"I don't know. You're the bushman, Nugget. You've been a commando, haven't you?"

"Skip it. We don't want the rough stuff, do we?"

"Not if we can help it."

"Okay. Well, youse keep right behind me."

They went silently around the end of a quartz ridge, not far from the sand bench where Nugget had obtained his first view of the formicary tunnel entrance. And, as then, he received a shock.

Before them, in the bright moonlight, swayed the gaunt, skeleton-like figure of one of the Big Sticks. The creature had its back to them, and they were fortunately upwind of it; otherwise it would have been aware of them.

At that moment there came from the tunnel mouth a single Ant Man. Instantly aware of the great Mantis, he sent out a whiplike call, simultaneously aiming at his enemy a jet of acid. His aim went wide. Before he could

recover, the Big Stick had crossed the intervening space and had caught the sentry in a scissors-like grip.

In vain the Ant Man struggled, tearing at his captor with the hooked extremities of his jaws. The forearm of the Mantis slowly tightened and its beak bent gaping over its prey.

"Mamma, mamma!" Nugget suddenly cried. "I don't stand fer this. Hold him off, fellow."

Fighting mad, he dashed from cover. The two struggling bodies were too close together to let him shoot. He dropped his rifle as he ran, drawing the sheath knife from his belt. Startled by his shout, the Big Stick half turned, and running in at it Nugget plunged his knife between the yellow scales of its body.

The creature gave a hideous chuckle, flung the Ant Man from it, and turned to face this new enemy, the sudden movement knocking Nugget off his balance. Thus he fell clear of the cranelike claw that swept over him. Spinning like a top, the Big Stick came round again. The triangular head, with its gleaming beak, lifted to stab.

Yelling a warning, Jugs swung up his rifle and fired. The Big Stick reared, then toppled. A greenish blood spurted as it hit the ground.

Nugget roared, "Good on yer, young Jay. Come on..."

The Ant Man was lying where he had been thrown. He looked to be dead. But it was not at him they glanced, so much as at a second Ant Man who had miraculously appeared and was bending over the first. As they dashed past for the tunnel mouth they were aware of his round, staring eyes fixed on them, and the two slender antennae that quivered in their direction. It was a fleeting glimpse only.

And all at once they were out of the sting of the wind and racing between rounded, whitely gleaming walls. They were too excited then to ask themselves whence came the dim illumination that guided them. Moreover,

Nugget's unfailing instinct was at work. They came to a kind of embrasure on their left, and the old-timer herded them into it with a muttered warning.

He had hardly done so, when racing toward the tunnel mouth went several black soldiers, evidently answering the sentry's cry for help.

"Bit late in the day," Bill whispered.

Nugget flashed his torch on and off again. So far as they could discover, the tunnel was deserted except for themselves.

"More sentries further along, though, I bet," he said. "Most of their fighters is out on the pans, I reckon. Here we go again. Mamma, Mamma!"

The tunnel ran level for perhaps twenty yards, then began to dip sharply. At intervals, side tunnels branched from it. They were smaller, but still large enough to take a grown man comfortably.

Jugs was wrinkling his nose.

"What a stink! Like bad meat."

"Even your best friends won't tell you," Bill said, grinning.

"Cheese it, youse kids," Nugget said hoarsely. "Doc, we better look fer a hide-out before they get after us. That second Ant Man will have turned us in by now."

"We'll have to chance it," Dr. Wise said. He put on his own flashlight, as they went less recklessly now, step by step, down the tunnel incline. "As you say, the hunt will be on."

The exploring beams presently picked out a kind of grotto opening above a steplike ledge. They turned into it, muttering their astonishment. Far overhead was a rough vaulted ceiling, held up, as far as they could gather, by pillars of clay.

Dr. Wise said, "Typical ant architecture. They nearly always have an arrangement like this. Flats and stories, connected by passages and supported by columns. Only

now, of course, we're seeing it on a hugely vast scale, and with an added half-human touch to it."

"What is it that smells so bad, sir?" Jugs persisted.

For answer, Dr. Wise opened his penknife and prodded the limestone walls.

"See here . . . these are patches of rotten felspar. We call it necronite. Look at these small nodules. As soon as you touch them they give out a smell of decay."

"I get it," Jugs said. "Necropolite . . . necropolis, meaning a cemetery. Ugh! The stuff's well named, sir."

Bill said, "Don't be morbid. A fine little ray of sunshine you are."

"I don't think," Nugget added.

"I was just being all philological, hang it."

The old-timer stared.

"Okay. You win. Can you hear anything, Doc? Yeah, right under our feet."

"Running water," Dr. Wise said. "But, of course, we would expect a river somewhere. That crocodile . . . and there would be a formicary water supply."

They were in a semitwilight once more, for he had snapped off his flashlight. About them was the same misty luminance that had guided them along the tunnel.

Bill said nervously, "Hadn't we better find a hiding place, sir? By now they'll be on our heels."

"You're quite right, Carey," Dr. Wise said reluctantly. "But how I wish that we were in no danger. What a scope for research! What is it, Gray?"

Jugs had edged away from them. His voice came now from somewhere beyond a pillar.

"There's a ledge here, sir. Plenty of room on top."

"Good. We'll climb up to it and rest and eat. If nothing seems to threaten us we'll tackle the tunnel again in an hour or so."

"A river means fish," Bill said, as they settled on the ledge.

"Not always, young Double-you."

"That's what you think. If there are crocodiles there'll be food for them, won't there? Fish. Probably water things we don't know anything about."

"He has you there, Nugget," Dr. Wise said, with one of his rare chuckles. "Now, suppose we check up on what has happened. By the way, did any of you notice anything special about the Ant Man who was caught by the Mantis?"

"A soldier. He was jet-black and he had only a single antenna."

"Right. But I did not mean that. He wore some sort of a bracelet on what we would call his wrist, I suppose. It was yellow."

Bill said incredulously, "You don't mean these . . . Ant Men practice the arts and crafts?"

"I'm simply telling you what I plainly saw. If these queer—shall we say, people, know an architecture, why should they not know something of craftsmanship? We're out of the normal here, Carey. By this time we ought not to be surprised at anything."

"I ain't, anyhow," Nugget told them.

"I didn't see what you saw, sir," Jugs said. "But it did seem to me that the second Ant Man, the one bending over the sentry, who saw us run in here, had green markings on the body. And a pair of antennae. According to your theory, that makes him an . . . well, an ordinary citizen, doesn't it?"

"Assuming I'm right—yes. As I see our present position, most of the Soldier Blacks must be out on the pans. The big Mantis that Gray shot probably just strayed to where he was by accident."

"That's one I owe you, young Jay," Nugget interrupted. "You saved my life. I won't forget it."

"If it comes to that, you saved the sentry—the first Ant Man."

"Aw, let's call him Bracelet," Bill suggested. "We'll lose track of things if we don't distinguish a hit."

"Okay," Jugs said. "Nugget saved Bracelet's life."

"Maybe. He could have thrown a seven. He looked bad enough. And I left a good knife sticking in that darned great insecck."

Dr. Wise, falling into their mood, said, "Names are certainly a good idea, Carey. Suppose we call the second Ant Man—the citizen one—well, any suggestions?"

"He was kinder smaller and thinner than the—than Bracelet," Nugget said. "So I guess we'll call him Big Boy."

Their amusement at this helped to cheer them.

"Bracelet and Big Boy it is," Jugs agreed. "Whatever the Ant Men turn out to be, those two at any rate acted in an almost human way."

Following the interval given every now and then for the purpose of listening for any approach to their hiding place, Dr. Wise said, "I imagine that we are not so very far away now from Professor Orcutt. Our first task is to find the river—and water. Then we must try to locate the professor. Most of the Soldier Blacks, as I have said, are away from the formicary. But we have still to reckon with the ordinary inhabitants, and particularly the neuters, or workers."

"They have no acid jets?" Bill said.

"We are assuming not. But they may have other weapons. And they have the weight of numbers. So we must proceed with the utmost caution."

"Mamma, mamma," Nugget said restlessly, "when do we close this here debating society and get cracking? Grah the prof, I says, and let's get outer here pronto."

Dr. Wise had put his flashlight on his watch, and in the brief interval the old-timer was able to see Jugs and Bill exchanging wide grins.

"Okay, youse kids," he threatened. "Yeah, so you saved

my life, young Jay. Maybe you're going to be sorry for that one day."

Dr. Wise called them to order.

"My plan is this: The main tunnel will be the most heavily guarded. It is wide enough to take several of the giant Mantises abreast, but the side tunnels are much too small even for a single Mantis. They can, nevertheless, comfortably pass Ant Men in single file, which is to say, they can pass us along in the same way."

"What I can't understand," Bill said, "is why there was only a single sentry at the mouth of the formicary?"

Jugs suggested, "Probably there was a whole platoon of Soldier Blacks. Word—or whatever it is that they do to communicate—came asking hurriedly for reinforcements on the pans, and the whole lot got busy, leaving only Bracelet to hold the fort."

"A reasonable explanation," Dr. Wise approved. "Well, we must travel on by a side tunnel, or tunnels. There is one right in front of us. It seems to incline downward. We can only proceed by trial and error. Does it seem safe for us to make a start now, Nugget?"

The old-timer had descended to the floor of the grotto.

"I'd say so, Doc. Don't hear nothing nor see nothing."

The others joined him.

"No talking," Dr. Wise cautioned.

Nugget had made a thin paste of the greasy gypsum dust at their feet to fasten a scrap of paper torn from Bill's field book over the glass of his flash, leaving only a pin-point hole at the center. The tiny thread of light was quite sufficient, however, to show the ground ahead of them.

When, at the end of perhaps five minutes' progress, Dr. Wise pointed to a square recess in the wall—they had passed half a dozen of them—and drew them inside it, they were all bursting to speak. For the faint murmur of water beneath them was now overlaid by a deep

swelling sound like faraway thunder. It too came from somewhere under their feet. It crept on the silence with a sinister and menacing note. Somehow they knew it for a live, flesh-and-blood sound.

Dr. Wise whispered, "These recesses, of course, are runways. Should men traveling in opposite directions meet in a narrow tunnel like this, one party can step aside while the other goes by."

"Yeah," Nugget growled. "But what's making that bellowing? Not crocs . . ."

"They bark, sort of," Jugs said.

He felt a little shiver run up his spine.

"I've heard the sounds made by most animals: the big cats, wild cattle, the rhinoceri, and the like," Dr. Wise said, in an uneasy voice, "but this sound is new to me."

The sound came again. It died. They waited, but there was no recurrence.

"Feeding time at the zoo," Bill said, but his grin was a little strained.

The whisper of the underground river was back in their ears. It was, they thought, a trifle louder.

"If we are discovered here," Dr. Wise said quietly, "we may have to scatter. We should therefore agree now on an outside rendezvous, if any of us win clear. I can think of no better place than the rock column where we made our cache of water and equipment. As to how long we should wait, in the hope that others will join us, I can only tell you to use your own judgment. A day. Two days. Then take an individual share of the food and water, and do the best you can to find a way north."

They nodded their understanding.

"Next," Dr. Wise went on, "we should agree now on some kind of signal which will identify us if we happen to part. Sound, as you know, is a vibration. It travels on an average of about 1,116 feet per second. It can be,

and is, aided or impeded by the nature of the medium by which it is conducted. In thinking of the diminution that all sound is subject to in the upper air, one is surprised at the intensity of the noise sometimes produced by an explosion of a thunderbolt."

His voice had become dreamy.

Jugs nudged his pal.

"The doc's off again—back in the classroom." He raised his tones. "Sir, excuse me . . ."

Dr. Wise came to himself with a start.

"Ah! Um! Now, let me see. We were talking about agreeing on some kind of signal. We must take pitch into account, for it may prove important. Thus: certain sounds are too high-pitched, or too low-pitched, for human ears to pick up. So it may be with animals. The Ant Men, as we know, have poor sight. They use the organ of smell, mainly, in identifying natural objects. Without actually hearing, they are sensitive to sound as a vibration. They are guided by impressions, wave lengths. Their whipcrack signals are on a high note, a very high note. They apparently are attuned to very rapid vibrations and may find low vibrations difficult to catch. I suggest then that we pitch our signal on a low note. As to the signal itself . . ."

"What about the call of a mopoke?" Jugs said.

He gave it softly.

"That should do. As low-pitched as possible. Twice given, with an interval between the calls of, say, five seconds. Agreed, Nugget?"

The old-timer said, "As good as any. Time we was moving again, ain't it? Now then, youse kids . . ."

"Don't kid yourself," Jugs told him, as they moved on. "You can't lose us."

"No matter how you try," Bill added.

"No talking," Dr. Wise said.

Chapter 11 The Naphtha Lake

THEY HAD not proceeded for more than a few minutes when two things happened which startled and disconcerted them. They entered a second vaulted cavern on rounding a sharp turn in the tunnel, and were faced with a misty radiance that, for a moment, tempted them to believe that it came from an Ant Men lighting scheme.

Then Dr. Wise said, "Glowworms."

"My sainted aunt!" Bill gasped. "There must be billions of them. Well, what do you know?"

"You see something like this in the Jenolan Caves," Jugs marveled, "but nothing like this. You could see to read."

Dr. Wise shook his head at them. They followed once more at Nugget's heels. The old-timer was sniffing the air suspiciously.

He said to himself, "Another stink. Ain't that rotten felspar neither. Sorter musty . . ."

Within seconds almost they knew what it was. Another sharp turn plunged them into an almost complete darkness and now there was a mighty stirring of the air about them and their ears rang to a medley of high-pitched squeaks.

Their rule of silence gave way before their disgusted astonishment.

"Bats!"

"Whoppers!" Nugget growled, as the tiny thread of light from his flash picked out the confusion of big furry bodies.

Even as he spoke the flash was struck from his hand.

Dr. Wise shouted above the beating of wings, "They're attacking us. Keep together, boys."

They groped for, and found, each other's hands.

"Don't use your own flash, Doc," Nugget cautioned. "I think light angers them. Hold tight, youse kids."

Beating off the foul-smelling creatures as best they could, the little group felt their way blindly toward an unseen but logically suggested exit at the further side of the cavern. Presently a tiny current of fresh air penetrated the reek, guiding them in the right direction. A glimmer of light sprang on the darkness.

"Mamma, mamma!" Nugget wailed, as they fought clear of the bat lair and came sweating and breathless into a new tunnel. "Maybe I'll get my flash back and maybe I won't. Whew!"

The stench they had escaped left them with a bad taste in their nostrils and mouths, and a feeling of nausea.

"This won't do," Dr. Wise suddenly decided. He looked at his wrist watch and was astonished to find it was close to midnight. He snapped off his flash and said, "Only one torch left. Unless . . ."

Jugs confessed, "Bill and I left ours with the gear. Sorry."

"Not much left in my batteries," Dr. Wise muttered. "And, of course, no means now of recharging them. Well, it can't be helped. Meantime, we must get some rest. We must find some spot where we can be reasonably safe for a few hours."

"Yeah, I guess that's wise, Doc," Nugget said.

Until then they had not realized how exhausted they really were after the night's incredible adventures.

"There's another of those ledge platforms," Jugs said. He pointed it out.

Dr. Wise said thankfully, "Then up we go. We ought to set a watch, but I doubt if any of us could keep awake."

In that, however, he was mistaken. Taut nerves held them awake for some time. Dr. Wise, on whose shoulders responsibility now rested, found his mind going over and over the possibilities ahead. He was grimly determined to discover Professor Orcutt's fate before leaving the formicary. If Orcutt was still alive—and Dr. Wise felt quite certain he was—then he must somehow be rescued. Somehow they must regain the open, and take up their search for a way out of the lost crater world.

Yet, as he thought this over, his heart sank. Had there been an opening in the encircling cliffs, surely the Ant Men or the giant Mantises would have discovered it ages ago—literally ages ago. It was increasingly clear that the earth wave that had given their utility truck a passage into the crater had closed again. No, they were trapped.

Nugget had about reached the same conclusion. But all his life he had battled against desert odds and always he had managed to come good, as he expressed it. The old-timer had a firm belief in his luck. He was used to tight corners. Sure, they'd find the prof and get him away from these here big bugs—by which term Nugget covered both the Ant Men and the Big Sticks—and then they'd shoot their way out of this haywire business.

Nugget was feeling a bit unhappy about Jugs and Bill. In spite of his tough looks and hard tongue and his habit of snapping at them, he had taken a furtive liking for the two boys.

He said to himself now, I reckon them two is okay. Kind of wish they was my boys. Yeah, why don't you go to sleep, you old shovelnose you.

He could hear them talking in whispers. After a while

they became silent; he yawned and rolled over, and was soon asleep himself.

When he wakened, he saw that Dr. Wise was sitting up.

"Morning, Nugget."

"I shouldn't wonder, Doc, though down in this here place it could be any time."

"After six. I hate to wake the lads, but we must get moving as soon as possible. Much water left?"

"About half full," Nugget said, shaking his water bottle. "Sure, we gotter find water in the next few hours."

"Mine's almost empty," Dr. Wise said ruefully. "And I don't think the boys are in much better shape. Fortunately, it's fairly cool here underground. Get them awake, will you, while I get some breakfast ready?"

The old-timer grinned. He reached out a hairy hand and tweaked one of Jug's prominent ears.

The boy came awake, his mouth opening to yell. The hand slid promptly to stifle it.

"Yeah, young Jay, I know. Youse thought a Big Stick had got yer, I bet."

Jugs shook free indignantly.

"You're a nasty bit of work, Nugget. Next time you can save yourself. I couldn't care less what happens to you."

"I told yer you'd be sorry, didn't I? Rouse up, young Double-you. Come and eat yer wheaties."

He was delighted at their glares.

"It's no time for fooling," Dr. Wise said, more sharply than he had yet spoken. "Get your packs together. Better eat lightly until we can replenish our water bottles. We must save what we have. A sip or two only."

Except that they were less jaded, their setting out now along the tunnel might have been merely an extension of their journey overnight, for the surroundings were unchanged, and the old problems remained. They could

only move single file: Nugget in the lead, as before, with Dr. Wise bringing up the rear. Since they had found that complete silence on the march gave too much opportunity for moody self-communings, Dr. Wise had permitted talking in low tones.

He said presently, "I can smell naphtha."

"Better than the bats, anyhow," Bill commented.

"Or the necronite," Jugs added.

"Nothing but stinks," Nugget said disgustedly over his shoulder.

"It grows stronger every minute," Dr. Wise said. "We're evidently going toward its source."

"Ask me," Nugget's voice rumbled back, "and I'd say this place ain't no distinct volcaner. It's a . . ."

Jugs corrected joyfully, "Extinct, if you don't mind."

"I said that. We was wrong in thinking that big noise we heard last night was an animal. It's a erupting volcaner!"

"I don't doubt there are underground fires," Dr. Wise said. "In fact, I've suspected it for some time. The atmosphere is distinctly warmer. But that noise came from something alive, Nugget."

"Well, maybe I was wrong."

"You were," Bill told him. "Yes, sir, it's getting hotter and the light is increasing, I think."

They saw that not only was the light brighter, but it was light of a different kind from the glowworm luminescence. The glowworms, in fact, had almost completely left the tunnel walls. Now the smooth limestone had taken on a greenish tinge. In places there were patches of weird fungus, and sometimes a gleam as of crystal. From the tunnel roof hung queer sprouting shapes that looked like petrified frogs, with, in between them, lace-like patterns of yellowish slime mold.

On an impulse, Dr. Wise put a finger on one of the fungi, and his fingers came away distinctly wet.

Bill said, "The river sounds louder."

"Yeah. And that naphther stink is growing."

"Bitumen, I think, Nugget."

"You should know, Doc."

They turned one more of the unending corners and simultaneously exclaimed. Far down showed a flickering light. As Bill said, it looked like the flame from a giant candle in a draft.

And then there suddenly burst on them a scene almost past belief. They were on the shore of a vast subterranean lake, sunk under a vast colonnaded roof that towered above them a hundred feet or more.

"Mamma, mamma," Nugget mumbled.

Jugs turned stupefied eyes on a lake expanse as black and as seemingly viscid as treacle. It had movement, but he could see no flow in it. It reminded him of slowly boiling tar. A thin vapor clung about its surface, at intervals rising in spirals. The stench of naphtha was terrific.

"This explains the naphtha in the bottomless ravine above us," Dr. Wise said, when he had recovered from his astonishment. He pointed a finger shaking with excitement. "See . . . we'd be suffocated only for those natural vents up there. I daresay they turn in like flues somewhere in the ravine sides. You can feel the draft. It keeps the air here from being poisoned."

Nugget growled, "But it's them lights that get me, Doc. Hundreds of little flames burning all over the shop."

"More vents," Dr. Wise said. "But this time from the lake, and feeding upward through crevices of the rocks. It has probably been burning like this for thousands—perhaps millions—of years, on gas drawn from the lake. Remember, I told you about the naphtha lighting of Genoa . . ."

"Drop a flame into that lake," Nugget said, "and it 'ud be good night all, and don't ferget to put the cat out."

"Why hasn't it caught fire?" Bill marveled.

"Because the air draft won't let it, Pommy."

"That is right," Dr. Wise said, before Bill could frame a fitting retort. "Close all those natural vents and the accumulated vapor would explode very quickly. I wish Professor Orcutt could see this."

"Perhaps he has, sir."

"It is possible, Gray, of course."

Bill said eagerly, "I've got a feeling that the Ant Men wouldn't come here very often. The light's not bright enough to bother them, but the stench of naphtha might."

Dr. Wise agreed.

He added, "But we're losing our caution. The river can't be far off . . . listen to it. You can feel the beat of it. The rush of water probably helps toward the ventilating drafts that keep the place from explosion. We must find the river, Nugget. On you go."

Although they could now see clearly, they had to use great caution, for the rock floor was pitted with holes, and there were many backwaters of the bubbling stuff from the lake. The lake itself was now behind them, and the illumination from the tiny naphtha fires was fading. There were shadows in their path.

"With so many tiny lights around," Dr. Wise said, "I think we can safely use the torch."

To their great concern, the bulb faintly glowed for a second and went completely dead.

Nugget said sarcastically, "Wouldn't it! That's dandy, that is."

They stood a moment in dismayed silence.

Suddenly Jugs' face cleared, as he caught sight of the black veins of bitumen congealed in the rock crevices. His mind flashed back to the ravine barrier. He dived into his pack and brought out one of the slivers of dried naphthol they had salvaged.

"Why, of course!" Dr. Wise exclaimed with relief. "Where were our wits? And there is no shortage of supplies of the stuff, either. We'd better get some more of those splinters together, and divide up our matches."

They became busy with their knives. Nugget, since he had lost his outside the formicary tunnel entrance, kept a lookout while they gathered and trimmed specimens.

"I always said you'd show intelligence one day, Aussie," Bill grinned, waving his homemade torch.

Jugs said loftily, "The breed tells."

"Naphthol," Dr. Wise began vaguely, "is, of course, obtained from naphthalene. Strictly speaking, what we have here is nature's version. You will note that the flame uses the soft core of the vein as a wick, leaving the solid outer shell to soften and melt gradually, as we see in a burning candle."

Nugget said under his breath, "Mamma, mamma!" and touched Dr. Wise's arm.

"Okay, Doc. Just as you say. But we better be looking for that river."

"Uh-huh. Yes, of course."

"There's that bellowing noise again!" Bill said.

They listened with pounding hearts.

"Only an enormous beast could give out a volume of sound like that," Dr. Wise said. "Whatever it is, it is certainly not very near to us."

"Thank the pigs," Nugget grunted. He could be seen scratching his neck. "Fair go, I say."

The sound rose and fell, leaving sonorous echoes.

"Why shouldn't it come from a big blowhole?" Bill suggested suddenly. "A river blowhole?"

But somehow they couldn't believe this. As Dr. Wise had pointed out, this was a live sound.

"Some prehistoric animal," Dr. Wise said. "Well, we mustn't loiter."

The great cavern of the naphtha lake had narrowed to still another tunnel. Now they could feel the ground vibrating under their feet. The torch in Bill's hand showed the tunnel roof split with long gaps through which they glimpsed now and then the whitish gleam of stalactites dropping through the inky beyond. Masses of slime fungus began to show on the walls. The steady beat of water grew, and presently a wet draft flattened the torch flame.

Nugget sniffed loudly.

"More stinks. River ooze, I guess. Yeah, here she is..."

They had emerged on a flat rock ledge, with a black gleam of water some ten feet beneath. With the torch held high, they could just make out the further bank. They clambered along the ledge and dropped to a rubble beach of coarse sand and shingle a little above water level. Sprawling shapes turned out to be the fossilized limbs of primordial vegetable growths, whirled underground at some remote period of time, and thrown up by flood waters.

"Water's all right to drink, anyhow," Jugs said, tasting it. "I don't mind saying that I was worried lest it be poisoned with bitumen or something."

"Especially something," Bill said, grinning. "Hi, Aussie!"

"Hi, Pommy!"

They shook hands.

Nugget, eying the ritual with disgust, said, "Youse kids ain't out of the woods yet, not by a long shot. Say, when do we eat?"

It was amazing how discovery of water put them in good heart again. With a single torch, they decided they were unlikely to attract any attention where they were, and they sat eagerly discussing immediate plans. They were relaxed and almost gay as they took their meal.

Nugget began to wind off a fishing line from the stout twine in his pack, while Jugs and Bill bent wire into rough hooks. Dr. Wise, always concerned more with the scientific side of their adventures, made notes in his diary.

So employed, they were almost taken unawares. Nugget's desert instinct saved them. They were startled to see his hand go out to quench the torch.

"Something coming down the river. Get to cover somewhere."

Dr. Wise added, "There are rocks at the back of us. . . . Don't scatter too widely if you can help it."

Down the long dark funnel of the river came the crack of an Ant Man.

Chapter 12 *Jugs Plays a Lone Hand*

[XACTLY HOW it happened, Jugs did not know, but when he finally came out of the scramble to take stock he found he had lost touch with his companions. He had heard their movements as they felt their way to cover and had thought he was taking the same general direction. It was plain now that he had not.

Okay, he said to himself. Better not whistle or anything. I'll sit tight and see what happens. I wonder where the others have got to?

Now that his eyes were becoming accustomed to the darkness, he found that, as with the tunnels they had traveled, a misty luminance enabled him to pick out objects close at hand, if with difficulty. The torchlight had hitherto prevented them from noticing the luminous fungi and glowworms everywhere around. He had wedged himself between two great boulders close to the river's edge, and he was able to make out the movement of water.

The Ant Man's whipcrack call had not been repeated, but a new sound was creeping on the darkness.

Jugs, hugging his rifle, told himself that he was hearing a sound of oars, or sweeps—the progress, anyhow, of some sort of river craft.

He muttered, "Well, why not? You can't make head nor tail of what's going on, anyhow. Why worry?"

Maybe the Ant Man's crack had been caused by his sighting the flare of the torch. Or maybe not. There was no way of knowing. But, after all, these queer half-human creatures smelled you out. They didn't need to see you. They turned their antennae this way and that, picking up not air waves, but smells. Or perhaps they could do both. Jugs felt a pricking at his scalp. Not so good.

Yes, the Ant Men knew they were here, somewhere in their formicary. He bet they were chasing all over the place. Those two, Bracelet and Big Boy—Jugs grinned, in spite of his uneasiness—would have reported long ago. He wondered who they'd report to. Ants had a queen ant, didn't they, ruling the roost? Only you couldn't work things out quite that way, because of the half-human side to them. Maybe they had a king, or a president. The thought tickled him and he almost laughed. President Big Boy! Aw, stop it, won't you? You're going crazy.

A whipcrack sounded, sharp and clear. Straining his eyes, Jugs picked out a number of shapes against the background of river mist. There came a splash of water above the surge of the river itself. The shapes came steadily shoreward until they grounded within twenty or thirty feet of him. There came a noise of heavy movements.

"Suffering cats! Those aren't logs they're chucking on the bank. They're dead Big Sticks . . ."

He could see the trailing arms of the Mantis bodies, as Ant Men heaved and pushed them from the tossing raft to the riverbank.

I reckon the Ant Men must have won the Battle of the Pans, he said to himself excitedly. Why are they bringing the Big Sticks down here? Maybe they eat them.

The thought worried him. Could be cannibal Ant Men, like ordinary ant cannibals, or like human canni-

bals. Supposing the professor . . . But Jugs pushed the horrible thought fiercely from him. No, the Ant Men couldn't be like that. He remembered the curiously human appeal they had found in Bracelet and Big Boy.

Now what?

The Ant Men on the beach loomed closer now. Jugs held his breath as he watched. They were loading the dead Big Sticks on their shoulders—well, that's what it looked like, anyhow—two Ant Men to each Mantis. They were moving off thus in pairs; heading, as far as Jugs could see, for the tunnel leading to the naphtha lake. Well, that would be right, wouldn't it? They'd be chucking them into the boiling lake to get rid of them.

That's it, Jugs decided. Some of the Big Sticks got inside the formicary and were hunted down and killed. Maybe that's why we've got as far as we have—the Ant Men were too busy chasing the Big Sticks.

They had passed out of sight now.

Jugs continued to stare at the dimly seen raft. Imagine that! A raft! That would come from the human bit in them. It looks to be deserted. I'd like fine to get a close-up of it, but I'd better not take risks. It's moored someplace. Or maybe someone's holding it. You can't exactly tell.

He rubbed his eyes and stared harder. No sign of movement. No. No noise except from the river. Hold on, though . . .

By jingo, there is someone there. That sound . . . like a man clearing his throat—only it isn't a man; it's an Ant Man. And maybe it isn't a throat, either. Golly!

The Ant Man had come suddenly out of the obscurity. Jugs could see the tip of his antenna slowly turning this way and that. A Soldier Black. He seemed to be feeling his way through air currents, picking up impressions, sensations.

Smells!

Jugs remained still as a statue. His fingers were feeling for the safety catch of his rifle.

I won't shoot unless I have to. I don't *want* to shoot. Something about the Ant Men . . . if only we could understand each other . . . but of course we never will . . . quite impossible . . .

But what chance, anyhow, would we have against a jet of acid, if the Ant Man acted first?

He's turning his antenna this way. I guess this is where the balloon goes up.

Unexpectedly, interruption came. From the direction of the lake tunnel came an echoing volley of whip calls. The effect on the sentry was magical. A sharp explosive crack rattled Jugs' ears. Next moment the Ant Man had gone past him and had vanished.

Jugs drew a deep breath. His thoughts were racing madly. The river air was stirred by the muffled reverberations of a distant outcry.

Unable to restrain himself, Jugs stood up. He gave the call of the mopoke twice. There was no reply. He heard only the surge of the water and the sick hammering of his heart.

So that's that, he told himself. I reckon they've had to hurry, for some reason. Or maybe that's what all the noise is about. The Ant Men must have smelled them out. Maybe they ducked for the tunnel. Yeah, that's it. And *now* what do I do?

Suddenly reckless, Jugs repeated their agreed signal. The river mocked him. He knew he was alone in the gray twilight of the Ant Man's fantastic underworld.

It came to him that he could not, anyhow, remain where he was.

Okay. But don't panic. You're in a hot spot, Jugs Gray. Keep your fingers crossed and start working your noggin. What would Superman do?

Frankly, Jugs didn't know. Probably swell himself up till he reached the cavern roof and then tear the whole thing open and climb out on the desert, flicking Ant Men and Big Sticks off him like a lot of flies.

He was still undecided when events took charge. The Ant Men were returning. Two parties of them, to judge from the whispering echoes of their approach.

I'm between them like the meat in a sandwich, he thought, with a sickly grin.

Almost without knowing it, he found himself racing for the raft heaving at the water's edge. Once committed, there was no turning back. His groping hands sought and found and cast off the twisted jungle vine, or whatever it was that held it to the shore. Within seconds he had clambered aboard. Caught by the current, the raft spun into midstream. As it did so, a number of Ant Men reached the empty mooring place. An instant of pause, and the air was rent with an angry cracking.

Instinctively Jugs threw himself flat on the tossing deck. Nor was he a moment too soon. But the Soldier Blacks, completely surprised, shot wildly. The silver streaks of their acid jets passed over him, to fall back into the river with a loud hissing like released steam. And in another moment or two he was out of range and whirling downstream with ever-increasing speed.

Golly! Oh, golly!

Jugs got somehow to his knees, holding wildly to the lashings of the raft. He was breathless and sore, but he had managed to hold to his pack and his rifle, and so far they were safe and dry.

I've done it now, he thought. This is it. But what else could I do?

A wave came inboard. He was startled to find the water quite hot. The dreadful thought came that perhaps the river fell into the crater of a subterranean vol-

cano. And not a "distinct" one either, as old Nugget would say, he joked to comfort himself. It was pitch-black. He couldn't see a thing.

And then he remembered the naphtha slivers, and his shaking hands found his matches. It was difficult getting the thing lighted but somehow he managed it. Now, anyhow, he could see.

For the moment, nothing but racing black water, great dripping walls and roofs, and—boy, oh, boy—is that the snout of a croc on that sandspit there?

The river hammered his ears. It was growing hotter each minute.

So what? I've got to get back to land. Better the Ant Men, I guess, than to be headed right into a live crater. That's where this river is heading all right. Look! That's steam right ahead there. I reckon the river's about boiling that far down.

Jugs got up groggily, holding the torch high. For a second he was without understanding why the motion of the raft had quieted. Then he saw that it had been momentarily swept into a gentle side current, and within a few feet of him was a curving sandy beach. Already the main stream was clutching at the raft again. It was now or never.

He judged his movement, uttered a wild prayer, and jumped. The raft slid from under his feet as he did so, reared to the impact of the screaming water, and vanished into the darkness.

I can't do it . . . I can't, the boy's agonized mind cried.

Then his hands found a grip . . . held . . . slipped . . . gripped again, and in desolate and utter obscurity, he dragged his dripping body into safety.

Lying gasping on the sand, he was dimly surprised to find he was still clutching his belongings.

For a little while he lost consciousness.

Oddly, his last thought was of Professor Orcutt.

Chapter 13 The Frog God

THE PROFESSOR, as a matter of fact, was then within a quarter of a mile of the spot where Jugs lay; or, as he would have phrased it himself had he known of it, within a few fornicary or city blocks. He was sitting with his fine shaggy head in his hands, lost in uneasy yet absorbing retrospection.

When, forty-eight hours before, they had been ambushed and his foot had caught in a trailing vine as he had turned to run, he had given himself up for lost. He doubled over on his face, waiting for the acid jet that would end his life. He had not then reached the double nature of this Ant Man weapon, as Dr. Wise did almost immediately, that the strength of the acid could be adjusted at will, either to anesthetize or to kill.

Wherefore he waited in the certainty of death, hoping mightily that his companions had escaped. As always with Orcutt, the scientific and philosophic sides were of first importance, and they remained so in this last extremity. In short, he found time to consider how very queer it was that while his world was celebrating the discovery of jet-propelled aircraft, here was a race of half-human beings which used a natural, physical jet propulsion for attack and defense. The Ant Men deliberately forced formic acid, drawn from the chemistry of their own bodies, through a tube or vent situated comparably with the human nose.

The professor came out of this quaint scientific swan song to discover that he was still alive and unharmed. He was being hauled to his feet by an Ant Man on either side of him. Their arms, he saw, were jointed. Instead of hands they had a sort of pliable hook, composed of cartilaginous substance, which seemed to be able to do about all that a human hand could do.

When he looked to see if they had any kind of face, he saw that they had. They were triangular faces, like that of a grasshopper—curious synthesis of the orthopterous and hymenopterous, the professor mused—with round staring eyes, and large jaws with hooked extremities. Between the eyes was a kind of slot opening which he knew at once to be the source of the acid jet.

Those now holding him, and about him, were Soldier Blacks. A single antenna came from their visor-like foreheads, like the horn of the fabled unicorn (actually, of course, nothing more than a superstitiously imagined asp, he told himself crossly). But several of his captors were without any antennae at all, and were a pale gray. They looked altogether inferior to the Soldier Blacks. Neuters, workers, he decided rightly.

Orcutt's gaze fell on two other Ant Men, who faced him about a yard away. They were smaller than the others, and their armor-plated bodies were green. They had (what an odd thing to imagine!) not only an air of authority, but an air of breeding. An aristocracy or an upper class, possibly. At any rate, they were undoubtedly officers of some kind. They had each a pair of antennae. Neither the greens nor the worker neuters had jet throwers.

While all this ran through Orcutt's mind, he heard a loud explosion from the direction taken by his friends and pursuing Soldier Blacks, and saw a sheet of flame leap desertward. Not knowing of Nugget's clever resort

with the petrol, he could make nothing of this. And presently he saw the Ant Men returning empty-handed, and was satisfied that all was well, for the time being, with Dr. Wise and the others.

His rifle had been taken from his hands and was being curiously inspected by the Officer Greens. They turned it from side to side and from end to end, looking from it to him with their round, black, staring eyes.

"They think it's some part of me," Orcutt muttered. "My antenna, maybe. Yes, I guess that's it. They heard Nugget's gun when he fired—and thank heaven he missed. The noise would be a kind of whipcrack . . . Now, that's mighty queer!"

There was a confused whispering in his mind. The Officer Greens were staring at him intently.

The professor thought, I think they're trying to get something over to me. Telepathy, sort of.

Quite suddenly, he understood that he was being asked about this rifle, this stick thing with the loud voice. Orcutt wanted to grin. They thought it was his voice—a detachable voice. But there was something else in the message they were trying to send him. He was being asked who he was, what he was. Friend or foe?

Could be they think I'm a stooge for the giant Mantises. They're getting a tough look about them. Now how do I let them know I'm a right guy?

An idea came to him. Probably valueless, but worth trying. Yet the human touches about these extraordinary creatures encouraged him to make the attempt at least.

Close by was a sort of dwarfed plantain tree. With a sudden but gentle movement Orcutt got his right hand free, tore a small branch loose, and held it aloft. It is the universal sign of peace, understood by even the most degraded savages.

Maybe . . . maybe . . .

Yeah. My gosh, they've got it. Sure. Okay, boys. Let's be pals.

The Ant Men were uttering soft cracking sounds. Certain other sounds, also. Remarkably human sounds, as if here and there was a cough or a clearing of the throat.

What a cockeyed lecture tour I'll let loose in the States once I get out of here, Orcutt thought optimistically. Who was that fellow in that yarn of Rider Haggard's . . . Yeah, that's right, *King Solomon's Mines*. Saved his life by taking out his dentures and showing them to the natives.

Now was his chance to show that he felt no fear. His hand was still free, and he let the bush drop gently and reached over and took his rifle from the grasp of the Officer Green who had it. He was prepared for almost anything. To his intense relief nothing happened. Antennae were bending and quivering toward him. He could sense their minds reaching out to his, still questing and puzzled but now with definitely friendly vibrations.

Orcutt took another bold decision. Both hands were free now.

Aiming his rifle perpendicularly he pulled the trigger.

The result was disappointing. Instead of an excited reaction, he got only an answering loud whipcrack from one of the Officer Greens.

The professor now tried the effect of a human voice. So far he had not spoken.

"I guess you think that's my voice, that rifle shot. A crack like yours. Same sort of voices, you and I, only speaking a different language."

He shook his head vigorously.

He made signs toward a round object, which might have been some kind of breadfruit, high up on a tree. Lifting his rifle, he took careful aim and fired. The fruit,

or whatever it was, shook to the thud of the bullet, then fell.

This time, if for only a few moments, the Ant Men showed alarm. That they understood at last the lethal nature of his weapon was plain, for the rifle was instantly torn from him and his arms were once more imprisoned.

Stumbling between his guards as the party now moved off, Orcutt felt the sweat starting on his scalp.

Maybe I overdid that. Or likely it wasn't me, but the fact that it's broad daylight and the sun with a sting in it. Could be they just want to get under cover in case any of their enemies are snooping around. Well, I guess I made as good an impression on them as I could.

As yet he had no knowledge of the giant Mantises. The existence of Soldier Blacks under discipline of officers, however, told him plainly that the lost crater contained other, and as powerful, forms of primal existence.

The Ant Men were now traveling at a pace the professor found hard to keep up with, considering his years. He did his best cheerfully, with the aid of the Soldier Blacks on either side of him. He had his scientific enthusiasm to help sustain him.

But he was almost exhausted by the time he was confronted by the formicary tunnel in the limestone cliffs. He recognized it instantly for what it was. All his life he had studied ant architecture, and not merely the cavern-like opening, but the Ant Men sentries just within its portals, told him what it was.

He thought, if these guys hold true to the ant tradition that is at the back of them, plus whatever they may have from their part-human complex, I guess I'm on to something that will blow the roof right off the Rockefeller Foundation setup. Wise and I—for somehow all of us must get together again and leave this place—will be the first real authorities on the social habits of ants.

Now they had passed by the sentries and he was being hustled along the inclined place of an enormous tube with walls that gave off a misty radiance. Ant Men of all sorts were hurrying up and down the tunnel and feeding in or out by smaller side tunnels. In short, Orcutt was observing all the phenomena later to be seen by his companions when they came in search of him.

In Orcutt's case, however, the party held to the main tunnel. And shortly he became aware of a strong but steady vibration of the air about him, and occasionally his ears picked up a murmur of running water. He had a logical theory to account for both of these things. He could make nothing, however, of the deep bellowing noise that came from somewhere ahead and beneath them. Three times it sounded, then was still.

Orcutt felt his presence was attracting an amazed attention from the Ant Men passing backward and forward, but their passage was uninterrupted.

Guess the rest of them are scared a bit by the Officer Greens, his thoughts ran. Sort of military caste setup, maybe. Our own human history gives us plenty of examples of that. Now that's mighty fine, but something's going on here that doesn't seem quite normal. Nest all roused up. . . . They're going to war.

The professor blinked and asked himself, Now why should I say that? My mind must have picked up some of their massed thinking.

He wrinkled his nose at a musty odor from which he seemed to be able to distinguish bitumen, necronite, formic acid, and sundry effluvia which he put down to Ant Man civilization.

It seemed to him that they had traveled for hundreds of yards, passing from the tunnel through a series of grottos faintly gleaming with opal ores and crystal, or along winding channels hung with the ghostly glimmering of myriads of glowworms, or by ways unseen because

of a sudden Stygian darkness. Finally they were confronted by a second barrier of sentries before what appeared to be a blank wall.

There was a short halt during which some order evidently passed from the Officer Greens, for part of the wall now slid smoothly and silently aside. Before Orcutt's astounded eyes appeared a cavern so vast that he seemed to be entering an enormous bubble in the earth itself. For a moment his sight was misted by a pale glow of flames flickering from high up, as from an amphitheater of hills. Then the illusion passed. He saw that long rectangular lanes had been quarried through solid rock, after the manner of streets, and that the flames came from thousands of naphtha fires springing from the battlements, as it were, of this fantastic metropolis.

He exclaimed, "The formicary! The city of the Ant Men! Bless my scientific soul!"

He could only guess at the existence of some great reservoir of bituminous fluid, from which crept through thousands of tiny wormlike fissures the naphtha gases burning on the heights. He could understand that they did so in complete safety, but it was a complete mystery how they came to be ignited in the first place.

Probably happened millions of years ago, he mused excitedly. Maybe some volcanic activity touched off the gas vents in the roof, but missed sparking the reservoir itself.

The Soldier Blacks were pressing him onward again.

Now he saw that the wide solid blocks of limestone rising on either side of the streets like cliffs, and extending as far as he could see, were pillared and chambered within, with a recognizable if crude architecture. His head ached and he was thirsty, and he was far from believing, in his heart of hearts, that he would ever see his own world again; yet, somehow, he knew he would not have missed this experience for worlds.

Recalling the gleaming skeleton on the pans above, however, Orcutt could not repress a shudder. Practically all ants are meat eaters, and it could be they were sort of saving him for the pot.

The streets—for so the professor decided to call them—were thronged with the Ant Man populace. Their movement gave out a noise like a deep rustling wind. Yet, save for an occasional cracking cry, the city was sunk in silence. It was a voiceless city to Orcutt's human hearing, yet he knew that waves of thought, of communication, were passing everywhere about him. He could feel their impact on his own mind, in a confused kind of way. Already he had sensed a war atmosphere but that was as far as his understanding took him. He could not know that the formicary had news of a horde of giant Mantises gathering out on the desert pans for one of their periodical attempts to storm the Ant Men's citadel and exterminate their civilization.

Orcutt reflected, After all, why get all steamed up about ants as big as men? For centuries it was believed that ants as big as foxes lived in the Arabian deserts. They even sent out expeditions to find them. And, because they didn't, it went down for a tall story. Well, I guess there are no strings attached to this little lot. Now what?

They had arrived at a wide portico. Here Orcutt found support for some, at least, of his gathering theories. For, in the plan of the building or chambered mound in which he now found himself, the human slant in his captors was abundantly evident. The walls were of limestone, rough without but smoothly plastered within, and underfoot was a hard, white, cemented floor. Openings in the walls reminded him of the slits or arrow loops he had seen in medieval castles in England and on the Continent. They were unprotected, and through them came

the flickering glow of the naphtha fires. Squared pillars held up the arched ceiling, and a wide ramp to the side of the main chamber lifted to an upper story.

Orcutt's interest held to a running commentary.

Formica rufibaris, I guess. The Ruddy Black Ant type. But they're a kind of mixture. The Officer Greens now . . . maybe a freak stem from the Green Tree Ant that Banks discovered right here in Australia on his trip out with Captain Cook in 1770. Uh-huh! These carton-covered passageways — like looking for a needle in a haystack. Could be the *Formicinae*. But there's surely a link here with the Australian *Myrmecia*, the bulldog ants, as they call them. We know it's a species that has remained a virile, generalized, and socially developed relic of the oldest form of ant civilization. Uh-huh! Maybe the *Dolichoderinae*, after all.

The professor was falling into one of the reveries which so often tricked Dr. Wise into a belief that he was in the lecture room, or on a public platform.

The *Ponerine odontomachus haematodes*, he murmured. They're found on each of the major land masses with only the slightest local variation of form.

He was suddenly annoyed to find himself where he was. He stared resentfully at the two greens standing at the entrance to the ramp.

After all, the professor thought, those feelers of theirs are only noses.

Finding his hands free, he scratched his own nose thoughtfully.

Two sharp cracks from above, replied to by his own party, restored the professor fully to his wits. He was suddenly conscious of an atmosphere charged with thought vibrations, as with electricity. He could feel them darting in and out of his brain. He was sticky with sweat and suddenly afraid.

The blacks at his elbows dragged him on up the ramp.

Orcutt's jaw set, and his tangled brows bunched in a frown.

He thought, I guess something mighty tough is waiting up there. The big cheese, maybe.

He looked wildly about him.

For a moment he had an insane urge to grab for his rifle and make a break for it, but his common sense prevailed. He thought of the jets of flesh-burning acid and his legs went weak. And, in any case, where would he run to?

Suddenly they were at the top of the ramp. Before him stood three tall shining figures, under an archway giving a glimpse of a balcony beyond, with the light of the naphtha flames spraying the formicary horizons like thin searchlights.

They were exactly like the rest of the Ant Men he had seen, except that they were red from head to foot, with faces grasshopper-like and uncannily human, despite their horribly fixed expression. He knew instantly that they represented high if not supreme authority in the Ant Men world. He could feel their minds reaching out to his, probing it steadily and remorselessly, and the sweat started anew on his forehead. He fought back as best he could, meeting their round staring eyes steadily. He felt that he was being slowly hypnotized. He was beginning to tremble when all at once the powerful force exerted on him was removed.

Evidently the Red Priests—for so Orcutt named them, in keeping with his names for the other Ant Men callings—had reached a decision, for the nearest green now took over from the two escorting blacks and urged him to the balcony itself. The reds had already withdrawn to the edge of the balcony. Professor Orcutt, moving like a man in a trance, saw them folding down on their jointed limbs in an attitude of worship. The Officer

Green with Orcutt had stepped back and was standing at rigid attention.

"Holy mackerell!" the professor whispered, through dry lips. "What is cooking now?"

He seemed to have been forgotten.

He stared out over the valley of the twilit Ant City, with its smoking, naphtha-flamed horizons, and its street caverns alive with living shadows. On an impulse he stepped to the very edge of the platform and looked directly down. A gasp of astonishment escaped him.

He saw a wide bowl of water, cut off from the streets by a high wall. At the center of the bowl showed a huge black hulk that rose for some ten or twelve feet above the surrounding surface. His first impression was of a small island. But even as the thought came, the thing began to move, and he knew that it was alive and monstrous. As though responding to the devotional attitude of the Red Priests of its temple, the creature reared itself clumsily on high. The light from the naphtha fires brought it into sudden sharp relief.

Orcutt saw a great spotted shape that twisted to reveal protruding saucer eyes and a froglike mouth. It seemed to be half saurian and half batrachian. The water cascaded down its warted back as it rose.

And all at once the bladder-like cheek pouches began to swell. The silence was hideously broken by a vast roaring that was neither a croak nor a bellow yet reminded the professor of both. The sound rolled over the formicary like a thunderclap.

Again it sounded.

There came a pause in which Orcutt could hear the blood beating in his ears. In some way he knew that at that moment his life hung in the balance.

For the third time the air rang to a frightening cacophony. A great spout of water shot into the glow of the

naphtha flames and simultaneously the huge batrachian began to settle back into the pool. It deflated like a pricked balloon, until nothing remained but a shining black hump on top of the pool.

The Frog God had spoken.

Miraculously the tension vanished.

Orcutt thought, that third cry . . . I guess that saved me. Twice only and I was in for it. Whew!

The Red Priests were on their feet again. They seemed, Orcutt felt, almost friendly. He was aware of their minds passing over and through his, but now there seemed to be no threat in it.

He found his handkerchief and mopped his streaming face.

Chapter 14 Orcutt Gets a Grip of Things

ONE WAY and another, Professor Orcutt was all out to it. The crisis past, all he wanted was to eat and drink, and then find some place and sleep it off.

The Red Priests had disappeared.

The two Officer Greens had now taken the places of the escorting Soldier Blacks and were taking him back down the ramp. He told himself that this was a good sign.

He thought, guess my stock has risen a bit, if I've gone up in the social scale, sort of. These greens represent the upper classes. And I'd bet the reds have a big say in what goes on. The priests here are the politicians, like it was in our own early civilizations.

He wondered how it fared with his companions.

I suppose they've about written me off for a goner. They'll be heading back north soon. The old-timer knows his desert. Once he gets his bearings he'll find a way out somehow. Okay, I don't blame them. Good guys. They don't have to stick around this place just for the fun of it.

And, anyhow—Orcutt finished the thought as they emerged again into the hurrying streets—I could be a lot worse off than I am right now. Yes, sir. Silas Orcutt's *still* going strong.

Their new journey was fortunately brief. Once again

he found himself climbing a ramp and then was thrust, but with more gentleness than hitherto, into a cell-like chamber. It was bare except for a kind of mattress which seemed to be woven out of spinifex and treated with some kind of transparent adhesive, and a smoothly topped stud of cemented clay which came up from the floor and was obviously intended to serve as a table. A cuplike opening had been hollowed in one wall and into it a trickle of water was fed from a groove beyond. Longish slit openings on the street side of the cell did duty for windows. There was just enough light from the reflected naphtha fires to enable him to see.

"I'm asleep in bed, I guess," Professor Orcutt said aloud. "Or maybe I'm just left holding the bag."

The greens had left him after one of them had first touched him lightly with his antennae. There had been a soft click in his ears, and the apparently solid wall had opened to let them through and had then slid silently back into place. Orcutt's intense curiosity had overcome his tiredness and he had run his hands over the blank space in hasty examination. There was no join that he could feel or see.

"Don't they ever feed you?" Orcutt asked. The sound of his voice comforted him. "Sure, I've got some food left, but I might need it if I can manage a getaway."

He grinned sourly and went to a window slit. He could not see into the street below, but he had a clear view of a section of flat-topped roofs stretching through the murk of the fornicary.

Some ant nest all right, he mused. The Ant Men must work their masonry with some kind of trowel, not just use their jaws like the small guys in our world. Pretty close to the best cave man architecture too, I'll bet.

His rifle had been returned to him. Searching for a reason Orcutt decided with a grin that the greens probably thought it was some part of himself, and he

wouldn't function properly without it. True, they had seen what it did to the breadfruit, but they could have done as much with their acid jets.

Maybe they think it's some sort of detachable nose. I couldn't care less what they think, so long as I've got it.

He was fumbling in his pack for his torch, when a Soldier Black came through the sliding panel in the wall with something on a large, rigid leaf which could be a plate. He placed this on the clay stub of table and went out again. The professor wrinkled his nose over the offering.

"Food, I guess. They're straight shooters, after all. Or maybe."

He tasted the queer-looking mess cautiously, finding it quite palatable.

"Some kind of fungus."

He felt about normal after eating it. It was both filling and satisfying.

He lay down on the mattress thing on the floor. But he was overtired. He tossed awhile, but sleep would not come. Through the wall vents the naphtha lights wove strange misty patterns on the ceiling of his prison.

I've got to outguess them somehow, Orcutt told himself. I got the all-clear from that big frog, so they won't get rid of me. So what? I'm going to be a museum piece so they can find out all about me—something to show around to visitors.

He sat up and looked at his watch. To his astonishment it was well past noon. He realized then that in the unchanging twilight of this underground existence, distinctions of day or night simply did not, for anyone in confinement, exist. The ghastly monotony of it appalled him. In that ghost city of the Ant Men time stood still. He guessed it looked like this and felt like this from the era, two hundred million years ago, when the pre-ant crawled over the plains and swamps of Central Asia.

The professor sat considering this for a long time.

He was brought from his reverie by the sudden appearance of an Officer Green. The Ant Man's feeler was quivering delicately from side to side, and once again Orcutt had the curious impression that an attempt was being made to explain the Ant People's methods of communication. As before, his mind was threaded . . .

Orcutt suddenly exclaimed, "Threaded. Yes, that's right. But not by any sort of words . . . word sounds. Ideographs, mental pictures. I'd say rather impacts that get you the sense of what's meant."

There came to him something of the same sensation of waiting, of expectation, that he had known some years before, when taking part in the experiments at Duke University.

"That's it. E.S.P. Extrasensory perception. That's how they do it. Telepathy."

At Duke his scoring had been so consistently high that he had astonished everybody, including himself. An important engagement had called him away, however, before he could check up further.

It seemed the green was becoming in tune more or less as Orcutt was himself, for the round staring eyes held a sort of luminance, and the antennae increased their movement.

Professor Orcutt, highly excited, hastily put himself in the role of percipient. Among his human fellow experimenters, his receptivity had been gradual and smooth, but now his brain hummed with activity. Impressions crowded so thickly that for a moment he was in despair. Then, as if they had between them found a mutually adjustable wave length between the wholly human and partly human metaphysics, the confusion died.

He astonished himself by saying out loud, "Sure. Sure, I'd like to have a look around things. Let's go."

When he turned to follow the green he saw that the

wall slide had opened. Two Soldier Blacks stood waiting and fell in behind them as they went down the ramp.

Professor Orcutt, touching their thoughts, was aware that all three regarded him in friendly and peaceful fashion, but that there was behind this a certain restraint. He found this part of their thinking a complete blank, but this did not surprise him. It was merely evidence that, as with the human mind, the Ant Man mind held certain depths wherein they could bury their inmost thoughts and emotions.

The streets of the formicary were less crowded now, although the atmosphere was still charged with tension.

Professor Orcutt, marveling not only at the discovery he had made but at the clarity of his sensory perceptions, knew exactly the reason for it. The mass mind of the Ant Men left him in no doubt whatever. The formicary was threatened by a hereditary enemy and its fighting men had gone aboveground. When it came dark they would go forth to battle.

Orcutt could feel the pulsing of the waves of anxiety that stirred the subterranean city. It was so humanly understandable that he knew a glow of liking and admiration. He was waiting for a mental picture of whatever creature it was that threatened the Ant Men, when he found himself entering an enormous building which appeared to take up a complete block of the formicary; and a new series of understandings began to flow into his mind.

It was not until long later that he was able to record in appreciable human terms what he now saw. His first impression was of a predominance of yellow Ant Men about the formicary communal nurseries they had first entered, and their presence was almost everywhere, mixed with the neuters. He knew the Yellow Ant, the little Yellow Formicine, for a troglodytic species so sensitive to the sun that it seldom or never appeared in the

open. Orcutt, at the receiving end of his green guide's mind, knew that they were employed where they were, as Ant Man yellows, for exactly this reason.

In one short hour of inspection the professor discovered an amazing admixture of ant and man not only in the social behavior of the Ant Men, but touching economy. He was shown catacomb cultivations where all kinds of fungi were being propagated, together with seeds brought in from the outside world; apiaries wherein a kind of subterranean bee, gathering its nectar from mosses and fungi, produced a sweet but treaclish honey; dormitories in which were bred caterpillars and other grubs of strange appearance, for provision of meat; and even herds of extraordinary aphides which provided a kind of milk.

It was not until the very last that the professor found himself in a long high chamber among groups of objects whose presence and meaning needed little explanation in view of his growing grasp of Ant Man psychology.

"In the name of Old Glory!" he cried, astounded. "It's some kind of a museum."

In the dim light and wholly dependent upon his eyes—whereas the Ant Men recognized also by touch and smell—many details had escaped him. Now his visual impressions were confused. He passed from one strange group to another, knowing of them only through extrasensory perception. They were embalmed specimens tracing the progress in rough of the—to Orcutt—freak evolutionary trend toward not only giantism but in the direction of humanism.

The last specimen, so near to a wall slit that the naphtha light showed it clearly, was, indeed, so manlike in certain respects that he was filled with horror. He was learning from the green at his side that what he saw was born to the Ant Man world, as it might be, years ahead of his time, as men are born in the human world.

In the view of the highest Ant Men mentality, this curious advance upon their present structure marked the perfected Ant Man of the future.

It was on becoming aware of this that Professor Orcutt knew his despairing horror.

Sure. That's it, his thoughts ran. I'm that thing there, only more so. That's why they've shown me all this. I'm to show them how it's done . . . fit my knowledge of my own kind to what they believe to be the trend of theirs. They'll guard me too well now ever to let me go. As for escaping . . .! I'm their guinea pig.

He could feel the green's understanding of what he was thinking. It surprised him to find in it something of resentment, even of anger, as if the green would have chosen for him another fate, a more human and useful one. But if that was so, he found no confirmation of it in the stream of his guide's consciousness and his own.

The professor clamped down on certain of his own thoughts. He did not release them until he once more found himself in his cell and alone. Then he almost gave way to despair.

Fatigue came this time to his rescue, however. He resolutely set the problem aside and as resolutely set himself to sleep.

"Tomorrow is another day," he murmured. "Looks like a push-over for these Ant Men, but maybe not. Must be some way out of this place. Uh-huh. Reminds me. Could be that specimen back there didn't breed out right here in the formicary. *Formicoxenus nitidulus* are only found living as guests in the nests of other species. I must check up on that."

With a tremendous yawn, the spunky old professor shut his eyes and in a few minutes was snoring defiantly.

How long he slept he did not know, for when he woke up and consulted his watch he was annoyed to find he had forgotten to wind it.

Migosh, he thought disgustedly, I guess I'd better make some kind of a check on the calendar, or I'll soon not know even what day of the week it is.

He wound the watch and set it at a guess.

"Could be still day or it could be the middle of the night." He was swiftly getting into the comforting habit of talking aloud to himself. "Now, I wonder what's next on the program? Yes, Silas, you're in a jam all right."

He saw that the food platter was gone. Evidently he had had visitors. He got up and quenched his thirst from the trickle of water in the wall cup.

Suddenly he heard the croaking roar of the Frog God. It sounded once, twice. He listened for it to sound a third time, but it did not come. He felt a little sick.

"Guess someone's in for it. I wonder what that thing is? Half frog and half reptile . . . a kind of Delphic oracle. I'd say some sort of megalosaurus."

He drank again.

So far as he could make out, the water was siphoned up from someplace below. It was clean, cool water. With the same thought in mind that had cautioned him to hold to his small store of food, he now poured the stale tepid water from his water bottle and refilled it. That done, Orcutt went to one of the window slits and looked out.

The general scene was as before, but now—probably aided by some trick of underground atmospherics—he caught a glimpse of the enormous natural roof above the formicary. It was upheld, he saw, by great buttresses of rock sprouting from the limestone walls, and by gigantic columns. Its ceiling, where not swallowed up in shadow, was hung with glistening stalactites, picked out by the flickering naphtha fires. The murmur of the city, pierced now and again by the echoes of a whip call rising from the street caverns, reached him through the steady throb of unseen waters.

Professor Orcutt thought of the camera and color film left behind with the gear on top of the desert rock column, and he sighed.

"What a killing I'd make back home with a spool or two of it right now. Well, maybe. I've got to play this business close to my chest, I guess. I'd give a lot to know how Wise and the others are making out."

His gaze foreshortened to take in the uneven line or flat-topped buildings across the way. At intervals they were joined with ribs of rock, or the base of a huge stalagmite thrusting upward like a church spire. The murmur below had swelled to a distinct note like a rushing of wind. Orcutt, marveling at an architecture so closely, even if crudely, resembling that of human hands, would have been yet more astonished could he had seen what was passing in the street beneath.

For the Ant Men, returned victorious from the Battle of the Pans, were marching and parading a number of captured giant Mantises between long lines of excited Ant People. The Big Sticks, shackled and impotent, were being goaded toward the Temple of the Red Priests, where, after a certain ritual was enacted, they would be thrown to the Frog God. Orcutt, hearing their hootings and chucklings as they moved directly below him, could make nothing of the sound. He was conscious, however, of a creeping of his flesh.

The sounds passed. With a feeling of despondency, the professor fumbled in his pack for his flashlight. It occurred to him that it would be a good thing to occupy his mind by adding to the notes in his field book, however futile the task might be otherwise. He needed more light.

But the flash was not to be found. Somewhere, somehow, it must have fallen from the pack. Or maybe whoever had entered his cell while he lay sleeping had removed not only the food platter but the flash. It was

colored a bright red, and red was apparently a sacred color with the Ant Men.

"Could be," he muttered.

His fingers touched one of the naphtha slivers they had gathered from the edge of the chasm on the floor of the crater above, and his flagging spirits revived a little.

"Sure. Why didn't I think of it before?"

With his torch wedged upright, he sat down on the floor and began to write. Presently he became lost in scientific communings. His unhappy surroundings faded from his mind. His eyes gleamed and his tangled eyebrows jerked happily.

"The Ant Men," he wrote, "appear not to be able to see a focused image, but they can distinguish between the changes of polarization of light, changes that are quite unappreciable to us . . ."

Chapter 15 *The Cavern of the Bats*

THE ENCOUNTER with the Ant Men landing from the river raft so completely surprised Bill that when he felt his way through the murk, on the heels of Dr. Wise and Nugget, he was not aware for some moments that Jugs was missing. He did not dare to call. In any case, Nugget had him by the wrist and was savagely urging him along. When he began to whisper his discovery, the old-timer shook him to silence.

Okay, Bill thought. Guess the old boy will turn up all right. It's a good thing we fixed up that signal before this happened.

Confused by the weird twilight, and completely unaware of what lay in their path, the three all at once found themselves in a cul-de-sac. Huge rocks piled up on all sides of them. They crawled between them painfully, conscious all the time of the approaching craft. Sounds of landing told their own story. The Ant Men, as they supposed—and in this they guessed right, for they had not the certainty which came to Jugs from his close-up observation—were engaged in some heavy exertion, apparently.

"No soap," came Nugget's hoarse whisper. "We gotter stay right here. Walls everywhere . . ."

They made themselves as small as they could, waiting with bated breath.

No doubt they would have escaped notice had it not been for the sudden violent tickling in Bill's nose. In vain he bit on his lower lip . . . his sneeze burst forth with a noise like a firecracker.

The Ant Men sensed, rather than heard, the alien sound. There came a series of whipcracks ahead of them, answered by a single crack from the direction of the river.

Bill gasped, "Sorry. I . . ."

"Never mind that," Dr. Wise snapped. "They'll be smelling us out. Can we climb these rocks anywhere . . ." He broke off to exclaim, "Where's Gray?"

"I don't know, sir. He's ducked off on his own."

A low whistle from Nugget interrupted Dr. Wise's anxious mutterings.

"There's a breakaway here, Doc. Gimme a push up, young Double-you. Yeah, I think we can make it."

"Hurry, hurry!" Dr. Wise said, in an agony of impatience. "I can bear them coming. Up you go, Carey. Grab Nugget's hand."

They were torn and bleeding by the time they joined forces again some twenty feet aboveground.

Nugget growled, "Cave here of some kind. Shut up, young Double-you. Nothing we can do about young Jay just now. What's cooking, Doc?"

"Some sort of ray . . . impulse," Wise whispered. "Can't you feel it?"

They were aware of it, even as he spoke. Bill felt as if unseen hands were plucking at him.

"Mamma, mammal" Nugget wailed.

"Hold tight," Dr. Wise hissed. "It will pass. I don't think they actually know we're up here. They know there's a strange vibration about, but that's all, I think. They can't be sure it comes from anything alive, though. These rocks are full of radioactivity."

"You mean we're a kind of static," Bill contributed. In spite of his fears for his friend and the eerie feeling that

some kind of thought force was acting on them, he couldn't help a grin. "We're jamming a broadcast, sort of."

Nugget's foot prodded him to silence.

It was a long five minutes before the tension suddenly passed. Even then they continued to lie motionless for some time.

Dr. Wise's mind was running like a spotlight without real light, like the impulses given off by what we call a dark star. Orcutt would have a better idea of it. He said in a low voice, "They're gone, I think. But be careful. What's at the back of this cave, Nugget?"

"Ain't a cave, it's another of them dingbusted tunnels. What about young Jay?"

"Shall I call, sir?"

Wise said, after a moment's consideration, "We daren't risk it, Carey. And besides . . ."

There was an unhappy silence.

"You think . . . you mean . . ."

Nugget, clearing his throat huskily, said, "It stands to reason they got him. That don't say he ain't all right though." He spoke almost fiercely. "But that hooting we heard . . . cracking. What say, Doc?"

"I'm afraid you're right. I think he would have called to us otherwise. If the Ant Men . . ."

Nugget said, "That's right. If they caught him he wouldn't call out to us, wouldn't risk letting them know he wasn't alone."

"That would be Jugs all right," Bill gulped. "He's all wool and a yard wide. Good old Aussie."

"We must take the hopeful view," Dr. Wise told them. "First Professor Orcutt and now Gray. We must find the real fornicary, the Ant Men's city. If they're alive, that's where we'll have to look for them."

"Yeah," Nugget said. "Prob'ly they'll put him in the same can as the old prof. Don't lose your block, Young

Double-you. We ain't by no means done yet, and don't you think it."

Dr. Wise said, "We had better press on. I have an idea all these tunnels empty out into a common center, the formicary proper."

By some strange irony, they had only been gone a few minutes when Jugs uttered the mopoke call. But by then they were deep in the tunnel.

"No torch," Dr. Wise had cautioned. "We're too close to the center of things."

Nugget went ahead, feeling his way with the barrel of his rifle. It was pitch-dark here, but the ground underfoot felt smooth and well-worn and they went confidently, if slowly.

"More stinks!" the old-timer's voice rumbled presently.

It was a thick stale smell.

"Wouldn't be that bat cavern again, would it?" Bill asked edgily. Recollection of those crowding furry horrors brought a feeling of nausea. "The tunnel seems to have widened out. I can't feel a wall, either."

"It's some kind of open space," Dr. Wise said. "I can feel the air moving. We'll have to risk a naphtha torch after all, Nugget. We might be on the verge of a precipice."

"Yeah. Okay. Gimme a match, young Double-you."

A second later light flared.

"Strike me bandy!" the old-timer grunted. "We're back where we was. It's the bat cave! Look aloft, will yer!"

Bill had a confused impression as of a vast spread of black canvas, dotted with innumerable points of light. As he stared, the canvas began to ripple and expand. The lights began to dart. There came into focus a tangle of webbed claws, ratlike ears, and gleaming teeth.

"Primordial vampires!" Dr. Wise stammered. "The bloodsucking specters of legend and myth!"

For a moment they stood transfixed with horror.

"Mamma, mamma!" Nugget rumbled. "There's thousands of the things."

Bill yelled, "They're beginning to peel off."

Two of the vampires had dropped from their head-down grip of the cavern roof and were coming straight at them, in a fast, zigzagging glide. Dr. Wise struck at the foremost with the butt of his rifle, dodging by a fraction the furious claw at the end of one webbed wing tip as it went squealing to the ground. Bill fumbled his lunge at the second. As the beaked mouth snarled to strike, Nugget thrust the torch into the thing's face.

"Come on, youse."

As they raced for one of the tunnel outlets beyond, they were aware of other vampires dropping to left and right of them. And now they were across the cavern and crowding through to the passage beyond, and running helter-skelter and entirely without caution between walls faintly lit by clustering glowworms, as in their earlier experience.

Dr. Wise, coming to his senses, called a halt, and Nugget beat out his torch on the floor. As they waited for their sight to accustom itself, the old-timer panted, "I ain't run so fast since me pants caught fire. Stay with it, young Double-you, you're doing swell."

Bill was too winded to reply.

"This isn't the tunnel we were in when we first came on the bats," Dr. Wise said presently. "At least, I don't think it is."

Bill, recovering, said, "It isn't, sir. Half a dozen tunnels led into . . . to where those things are. This is a new one."

Nugget, who had gone on to a bend, beckoned them.

"Real light ahead of us, gents," he rumbled. "This here worm cast that we're in now takes us right where we want to go, I reckon. Listen!"

The stealthy noise of the river was back in their ears,

but with it was a new sound altogether. It was the curious windlike rustling that had attracted Professor Orcutt's attention when he stood gazing through the window slit of his cell; the voice of the Ant Men's city ebbing and flowing to the impact of countless thought waves upon the air itself.

"Sounds like an electric fan," Bill guessed.

"Not a bad comparison," Dr. Wise said. "Nugget is right, I think. We must be very close now to the formicary proper. That sound is a live sound. Ah!"

Above the even note they had been listening to had come the raucous bellow they had heard just before they came to the naphtha lake. It sounded a second time; then the tremendous echoes rolled away and the whispering of the unseen city crept back.

"Yeah," Nugget said. "And so's that. Sorter twists yer gall bladder, don't it?"

"Some giant amphibian," Dr. Wise said.

The old-timer grinned.

"You took the words outter my mouth, Doc."

He stared at Bill, as though inviting comment. But the boy was in no mood for fun.

Nugget said gently, "Right now we're going to dig out young Jay and the prof. They're okay. Says you. Yeah, says me. Keep 'em rolling, young Double-you. We'll hand these Ant Men a line that'll make 'em sit up and take notice. Eh, Doc?"

"Remember . . . er . . . Bracclet, isn't it?"

"Yeah. And Big Boy."

Dr. Wise, smiling at the absurd names, said, "That's right. There was something very reassuring about those two, somehow. I don't see why we can't regard them as representative of Ant Men nature in its most, shall we say, human aspect."

"I reckon," Nugget said, "there'll be coves and narks among these here whosits, just as there is with us. You

take animals now, some of 'em are friendly from the word go, and others are just a pain in the neck."

Bill agreed. He was feeling less mournful, now that he had the encouragement of his friends.

"That's so. I don't suppose we'll run into Bracelet and Big Boy again, but I'd like to."

"Yeah. All that would mean would be we was their prisoners," the old-timer said grimly.

The vibrations in the air were stronger and clearer now. The strange light was fast widening. And now the tunnel floor dipped steeply, so that the sharp fall of the roof restricted their forward gaze, and all they could see was a narrow bar of rosy sheen playing like a miniature aurora about the floor level ahead.

What they expected to find they could not have said. But when, almost without warning, they came out on a wide platform in the full gleam of countless naphtha fires, with the City of the Ant Men spread at their feet in a ghostly twilight, their reactions were precisely those of Professor Orcutt at the same experience.

They were lost in wonder.

It was only when they realized that the strange wind-like murmur in their ears rose from the street corridors beneath them that their sense of caution returned.

"Down," Nugget grunted.

Dr. Wise said, after a moment, "Probably they can't see us against the flickering light, but we can't be sure."

"There could be Ant Men up here, though," Bill said.

"Not often, I'd say, or we'd have run into some of them long ago. What do you think, Nugget?"

The old-timer had borrowed Dr. Wise's night glasses and was busily adjusting them. He said, "They may be half blind, but look how they nearly smelled us out down there by the river. Only for them magnetic rocks, like you said, Doc, we'd have been up the pole."

"Instead of up the rocks," Bill said.

"Funny, ain't you?" Nugget growled. He handed the glasses back. "I can't see anything down there to write home about. Smells like a zoo."

Dr. Wise muttered, "This is incredible. It's a rough and ready architecture, but it's definitely intelligent. Whole blocks of buildings and regularly laid out streets. I wish we knew just whereabouts they've got Orcutt."

"And old Jugs."

"I wasn't forgetting him, Carey."

Nugget, scratching his neck thoughtfully, said, "D'ye know what? This place kind of reminds me of one time I was in the Port Essington jungle and blow me tight if I didn't come on a lotter rocks that looked mighty like ruins. Well, strike me pink, I says."

"Do me a favor?" Bill interrupted.

Nugget said suspiciously, "Yeah, what, young Double-you?"

"Keep it till Jugs turns up. I'd hate him to miss it, for I've got a feeling it's going to be right off the ice."

"Now, see her, youse . . ."

Dr. Wise stopped them.

He said to the grinning Bill, "Glad to find you've your spirits again, Carey, but we can't afford to get on the wrong side of Nugget. We're looking to him to guide us out of our predicament."

"Youse wait—you and young Jay," Nugget rumbled. But his faded blue eyes answered the twinkle in those of Dr. Wise. "See anything, Doc?"

"That big building over the way might be some kind of headquarters. There's another to the left. I seem to get a glimpse of water beyond it. And there's some kind of procession going on down in the street just below us."

Nugget said, "Let's eat. Not too much food left, by the look of things."

It was a silent meal; each man was busy with his inmost thoughts. Bill had all the optimism of youth. He

was not so much troubled by the odds against their ever getting back to their own world, as by the fate of Jugs. Dr. Wise and Nugget, on the other hand, were much less hopeful. Their cheery attitude was for the comfort of their young companion.

It was impossible to make any settled plans.

"We'll take our luck as it comes," Dr. Wise said, as they crept along the ledge. "Our immediate task is to locate Professor Orcutt. If we can do that, then we can really talk turkey, as he would himself say."

Presently they began to lower themselves from the ledge to a second ledge running at right angles. Some distance along it joined a squarish pillar that reminded them of a chimney, but turned out to be some kind of recess in which a sentry could stand. It fortunately proved empty . . . if that was indeed its meaning.

The hum below had subsided a little. Because of the deep shadows, it was impossible to see what was going on, but they gathered that the Ant Men crowds were dispersing. An occasional whip call kept their hearts in their mouths.

They had dropped to an angle by the sentry box, or whatever it was, and were wriggling painfully along on knees and elbows, when with one accord they stiffened.

"Mamma, mamma!" Nugget croaked.

From somewhere close at hand, faintly but unmistakably, came the call of a mopoke, twice repeated.

Chapter 16 Reunion

PROFESSOR ORCUTT, having finished his notes, was staring a little disconsolately through the window slit. The smoke from his crude torch had made his eyes smart and he had extinguished it. It was some time before he was able to see with any comfort.

Meantime, he had the curious impression that he had heard the call of a mopoke.

"Going crazy, I guess," he told himself.

But the belief started a train of thought for which he was grateful, for once an interest seized him he forgot completely to think about himself.

"*Ninox boobook*, miscalled *Podargus*. One of the owls. The mopoke, as the Australians call it, because it sort of calls 'more pork, more pork.' But it's a modern bird. It doesn't belong back here millions of years ago. Well, but maybe . . . the marsupials do . . ."

His eye was caught by movement on one of the connecting rock ribs in front of him and across the chasm of the street. It was about ten feet below the level of where he stood, and roughly fifty feet distant.

Orcutt, aroused from his musing, stared hard.

"Something there all right." He had a grimly amusing notion. "Some plumber, maybe. I guess they have to mend their roofs like we do. Or likely it's some other cause, seeing there's no rain to spring them a leak, and not enough wind to unshift things."

The movement was so stealthy that Orcutt presently felt doubtful if it really existed. He, like Dr. Wise, had equipped himself with night glasses toward a study of desert aspects after dark. Now he got them from his pack and carefully adjusted the focus.

"Bless my soul!"

He had a clear view of Dr. Wise, Nugget, and Bill Carey crawling on all fours toward a kind of penthouse corner. It so excited him that he improved on the ejaculation.

"Bless my immortal soul! Looking for me, I guess. But how did they get inside this place? And where's Gray?"

He was a little disturbed to find no sign of Jugs.

"Guess I'd better not yell. Migosh, how do I let them know where I am?"

He was still in a quandary, when from somewhere right overhead sounded the call of the mopoke.

"Mopoke . . . mopoke . . ."

His friends on the ledge had halted. He could see them twisting their heads to look in his direction. He saw Bill Carey making a little cup of his hands against his mouth. An answering call came softly to his ears.

"Mopoke . . . mopoke . . ."

Now the three on the ledge were gesticulating.

Suddenly the professor was seized with panic. They were calling not to him, but to each other. Jugs Gray was evidently on his side of the street ravine—though how he had got there, how any of them had managed to get where they were—he simply could not imagine.

From overhead the mopoke called again.

Orcutt had never practiced the queer, melancholy note. Feeling rather like a schoolboy, he attempted it now. He thrust his face as far into the window slit as he could, tugging at his beard as though it might somehow help him to find the right note.

"Mopoke . . ."

Even to Orcutt himself it sounded like nothing on earth. Desperately he tried again.

"Mopoke . . ."

Ah, that was better. The three on the ledge had swung again in his direction. They seemed paralyzed with astonishment.

A third time the professor called.

And now it was plain that his friends knew and understood. Bill Carey answered him. From overhead came a muffled scrambling. Again the mopoke called.

"Here!" cried Orcutt urgently.

Jugs' voice barely reached him.

"Professor! Thank heaven we've found you. Are you all right? I mean, not tied up or anything? By yourself?"

"No. I'm quite free, and alone. Can you hear me?"

"Just about."

"I'm locked in a sort of prison cell. Where are you?"

"Right above you. If there are windows or anything you could climb through, sir? I could lower a rope . . ."

"Just a minute, Gray."

The professor thrust his shoulders into the slit, but quickly realized the fit was too tight.

"I'm afraid it's no good. I guess I'm the toad under the harrow. Say, stick around a moment."

He dived for his pack and found his geological hammer.

"Gray?"

"Yes, sir?"

"I'm going to try to hammer my way out. It's a soft limestone. I can't stop bits falling into the street and maybe hitting someone, but I'll have to chance that. If any of the Ant Men come in while I'm at work—I guess I'm going to make something of a noise—I'll whistle. You leave and don't bother about me. And, say, Gray . . ."

"Yes, sir?"

"Tell Wise he was wrong about extreme polymor-

phism. I've got the proof right here. I . . . But I'd better get on with it. What say?"

"I'll get the rope ready, sir. I think I could haul you up here."

Orcutt's reply came in a vigorous attack on the sides of the window slit. To his immense relief the stuff came away in large flakes, which he managed to withdraw inward. Little more than a dust fell outward. He was in a sweat of anxiety lest the cell wall at his back slide open to admit his Soldier Black jailer. He was breathless by the time he had widened the opening sufficiently to pass the width of his sturdy shoulders.

"Still there, Gray?"

"Yes, Professor. I'm sending the rope down."

Orcutt strapped on his pack and reached for the knotted rope dangling beyond. He found a noose for one foot. Pushing himself clear of the window slit he began to climb. He went up a foot at a time.

Presently Jugs' reaching hand found his. With a last effort the professor scrambled over the roof ledge and lay panting. From over the street chasm came the sound of a stifled cheer.

"I guess the boys back home would have got a kick out of seeing that," Orcutt said and grinned, sitting up. He waved his hand at the three on the ledge opposite. "What's the idea, Gray?"

Jugs had drawn up the rope and was coiling it lariat fashion. He explained, "This is where the bit of practice I had roping calves on the old home ranch is going to come in useful, sir, I hope. Stand clear."

He whirled and let go.

The line snaked high and fell neatly into Nugget's eagerly waiting hands. They saw him make his end fast.

"Think you can make it, sir?"

Professor Orcutt nodded grimly. It looked a frail enough bridge, but it was that or nothing. He let the

rope take his weight gradually, then worked himself across hand over hand. It seemed an age before willing hands drew him to safety.

A moment later Jugs was with them.

For a matter of minutes they crouched with hands thrusting and gripping in the excitement of reunion. Nugget kept murmuring, "Mamma, mammal!"

The tension was broken by Jugs.

He said, "Hi, Pommy!"

"Hi, Aussie!"

"Youse silly kids!" Nugget growled. But his goarled face was beaming. "Pipe down, will yer, before I smack youse down."

Dr. Wise roused himself to say, "Orcutt . . . Gray . . . Thank heavens you're both safely with us again. But we mustn't let our enthusiasm run riot. There's a good fox-hole behind this chimney thing. Pity we can't get rid of that rope. They're bound to find it when they discover you're gone, Orcutt."

Nugget borrowed Bill's knife. Leaning as far out as he could, he cut the stretched line.

"Yeah. Well, we won't make it easy for them, anyhow. And we save some of it this way. Maybe they'll reckon you just crawled out of the window and got someplace that side, Prof."

"No harm in thinking so," Orcutt said. "Boys, I think you've been mighty fine. What do you say we lay up a bit and swap lies? How come you're here at all, Wise?"

Dr. Wise briefly sketched their adventures.

"Giant Mantises!" the professor exclaimed. "Well, but what's wrong with that, after all? I kind of guessed the Ant Men were all steamed up over something or other. What's your story, Gray?"

Jugs gave a modest account.

"When I got ashore from the raft," he finished, "I reckoned I was done for anyway. I hadn't a clue. I just

picked out a tunnel and stuck to it. It just had to lead someplace. It often happens that when the luck gets bad enough it suddenly changes. I got along fine. I just kept thinking of old Nugget here and . . ."

"Okay, okay," Nugget put in ferociously. "I'll settle with youse two kids one day, see if I don't. And not so much of the old, young Jay."

Jugs grinned and went on, "I was crawling over the roofs when I saw you three doing a worm act this side. So I moped you, as you might say. I nearly had a fit when I found I was right on top of you, Professor."

Dr. Wise said, "Now, Orcutt? I can see by your expression that you've quite a surprise for us. I'm dying with impatience to have your story. I think we're safe enough where we are for a time, but we all must be on the alert. One thing I've noticed about the Ant Men is their almost noiseless movement."

"It's typical," Professor Orcutt said. He paused a moment to get his thoughts in proper sequence. "You saw what happened. I fell and was taken prisoner."

He gave an outline of the events that followed, leading to his meeting with the Red Priests at the Temple of the Frog God.

"I'm dealing now with the human side of these queer creatures, Wise," he continued earnestly. "As with the early Egyptian civilizations, the priests are the politicians. I've already told you of the method of communication among the Ant Men peoples, so far as I can understand it. As I said, I managed out a pretty good average when I was at Duke taking part in their E.S.P. experiments. Think of it that way: a kind of telepathy; an extra, but not understood, sensory perception. Sometimes, as at Duke, it works; sometimes it doesn't. There are gaps. But, on the whole, I get the feel of their thinking here."

"An ideograph, so to speak? The symbolization of an idea mentally impressed?"

"About that, Wise. There's a lot in their minds you can't get at, all the same. They seem to be able to scramble their thought impulses, when they want to. But now and then it kind of leaks. I'd find something on the tip of my mind . . . But I guess that can wait."

Dr. Wise said, "I think I know what you mean. An arcanum?"

"You could say that. I'll give you an instance. The Officer Green—I've named them, as I told you, for identification purposes—that had charge of me doesn't like those priests. We kind of took to each other, and I got the impression he was rooting for me. There are two parties right here in this formicary, Wise. And what's more, there's a struggle for power going on right now."

Jugs said, "You mean the Officer Green told you so, sir?"

"I guess he didn't. I could feel him covering up against the Red Priests; hiding himself in the arcanum—the secret place we all have in our minds—that Dr. Wise spoke of. No, sir. That Green's a good guy. And when I say that, I mean the human part of him—it sounds crazy using the word 'human,' but we've got to have some terms of reference to keep our thinking straight. This human side is more developed with him than it is with the Red Priests. They wouldn't be able to follow those particular thought impulses. But I could, even if I wasn't meant to. You can take it from me, it's a cold war right now between the Ant Men Army and the Red Priest politicians, and it's getting hot."

"You couldn't follow the priests' thought images as clearly as those of the Green, then?" Dr. Wise asked.

"Those red fellows," Orcutt said, "think tighter than clams. I guess they've waved that big toad of theirs over the Ant Men peoples for thousands of years, maybe, and they don't take kindly to letting go, even under evolutionary pressure."

The professor tugged his beard, and his eyebrows danced.

"I think you see how it is, Wise," he said. "You find yourself explaining the Ant Men in terms of human understanding, whether you want to or not. Yet all the time you know they're just overgrown Hymenoptera. Or are they?"

Dr. Wise said reflectively, "We haven't the right kind of experience to find an answer."

"Yes," Orcutt said helplessly, "that's so. See here now: I got the low-down this much on the Red Priests, anyhow. They aimed to hold me for a guinea pig. If they're the formicary politicians, they're its scientists too. They sent me around for a look, intending to pick my brains. They darned near hypnotized me, getting it over to me that here was how we'd understand each other . . . this E.S.P. stuff. They took me for a freak Ant Man about a million years ahead of his time. They aimed to find out how it was done, so they could put a stop to it."

Dr. Wise exclaimed in astonishment, "What! You don't mean . . ."

"I mean what I said. They want to slap down this . . . this human side, as we would say. It's outguessing them. It's threatening their power." Orcutt paused to mop his face. "But their army doesn't want that. The greens see their chance in this evolutionary uptrend. They're being humanized and they see it's for the good of the race, although they can't give it a name, I daresay, any more than we can. It's just happening and they like it."

"Youse can't stop progress," Nugget grunted.

"But you can try," the professor said. "Yet the things I saw in their museum, if that's what it is, things preserved in bitumen over possibly thousands of years . . . eggs, larvae, progressive structural developments, if you like to call it that. Tiny wee specimens, steadily growing larger and larger, taking new forms . . . a branching out

to the body knot of the Ponerines, with a true waist, and then the coming of a second knot . . ."

Orcutt again paused. And again he wiped his face.

He said, "Oviparous, and then the first clumsy attempt of nature toward the viviparous—the coming of the first real Ant Men, Wise. What do you think of that?"

"It's madness," Dr. Wise muttered.

"Nevertheless," Orcutt said grimly, "I can vouch for the truth of it. From the tiny prescoliids of two hundred million years ago, clear through to the *Formicinae*, the finest flower of the ant kingdom; and then nature went berserk, I guess, and split off a corner of the ant genera and has been chasing the human pattern ever since."

They stared at each other uncomprehendingly.

Nugget said suddenly, "Listen!"

The whispering of the streets below them was gaining in volume once more. The air seemed suddenly charged with electricity.

"Mass thinking along the same lines," Dr. Wise suggested.

The professor said, "Yes. You know, Wise, if I hadn't joined in that time at Duke University I'd never have picked up this business now, even as crudely as I have. I can only get a general impression right now."

Through the hum came the staccato echoes of a series of whisperack calls.

Nugget growled, "I guess they've looked you up, Prof, and seen you've got away."

"Empty is the cradle, and baby's gone," Bill whispered to his pal.

They exchanged grins. It was remarkable, each of them thought, how right everything was when they were all together again.

"You're forgetting the professorial whiskers," Jugs returned.

Orcutt was saying, "Not yet, I think. This new stir

has nothing to do with us, fortunately." He closed his eyes a moment. "In a general way I can get the sense of it. It seems to run like this . . . 'are coming . . . are coming . . . no need for alarm . . . trust your leaders' . . ."

"The Big Sticks!" Bill exclaimed. "Maybe they've rallied."

Jugs said, "I thought the Soldier Blacks won the Battle of the Pans."

"These giant Mantises," Orcutt said. "Tell me more about them. You're probably right, Carey. Some name is being constantly repeated, but I can't catch what it is."

"I don't see how they can actually threaten the formicary itself," Dr. Wise puzzled. "Apparently it has stood safely for many long years. The tunnel entrance could easily be defended, you'd think, by acid throwers."

Nugget surprised them by saying, "Youse gents play up a great little story. If the Ant Men are as human as you say, I reckon they'd know something about a fifth column."

"You may have something there, old-timer," Orcutt told him seriously. "I guess the Red Priests wouldn't stop at much to climb back on top. Ant Men quislings, uh-huh."

"Why not?" Dr. Wise asked. "If our summing up is right, even the insect world has its ruthlessness, its treacheries, its civil wars."

"If the Big Sticks do manage to break in," Jugs said, "I reckon we'll be like the meat in a sandwich."

"They have to get in at the tunnel mouth," Bill objected.

"That's what you think. There could be other ways."

Dr. Wise said, "It's a possibility we have to keep in mind. We don't want to be caught where we are."

"What are you suggesting?" Professor Orcutt asked, shaking off his mood of perceptivity. His mind was tiring, and he knew from his E.S.P. experiences that in such case

he could not expect any worth-while results for the time being. "That we go someplace else?"

"The naphtha lake?" Bill suggested.

"I had that in mind, Carey. You say you have not seen it, Orcutt?"

"No. But I judged there must be some handy reservoir to send up the gas for those fires," the professor said.

"Yes, it sounds our best bet, being close to the river, as you say."

Nugget said, "Mamma, mamma! Ain't we the little old gasbags ourselves? Let's get moving, Prof. There's no hope of getting out by the main tunnel. I bet it's crawling with Ant Men. Yeah, and what do we do, gents, when we hit the river? Swim out?"

Chapter 17 *The Man Ants*

CRAWL OUT, like the croc did," Jugs jeered. "I bet when you were in Central Pyjamas, or wherever it was—you know, Nugget, that time you were . . ."

"Why couldn't he stay lost?" Nugget mourned, as Jugs dodged a hairy hand. "Youse just wait, that's all. Cheeky young-'uns."

"Think you could find the tunnel you came into the formicary from, Gray?" Dr. Wise asked, as they prepared to move.

"I doubt it, sir. But it wouldn't be much good to us. We'd still have to find a way upstream."

Professor Orcutt put in, "Didn't you say it emptied into a live crater?"

"That's what it looked like. But I was in such a state that I mostly guessed that. There's a live crater there all right, though."

"That leaves the vampire cavern," Bill said, with a shudder.

"On your own, young Double-you," Nugget told him. "I got a noseful of that."

"Same here," Dr. Wise said. "We'll try some other way. As I see it, when the Ant Men and the giant Mantises come to grips again—inside or outside the formicary—we'll try to work our way back the way we came. As Nugget has said, it seems pretty hopeless to try to get

out by the main tunnel, but there isn't a great stretch of it, if you remember, from where we turned off into the side tunnel."

"Sure. And the luck seems to be changing. Guess you're still in charge, Nugget."

"Okay by me, Prof. Now, youse kids . . ."

They followed his lead along the rock rib on which they had been resting. Now they had their first glimpse of what was taking place below. It was no more than a glimpse, for the streets were almost lost in murky shadow. But here and there the naphtha glow, filtering through breaks in the building line, picked up the surging Ant Man populace. Officer Greens could be seen leading parties or detachments of Soldier Blacks, and higher up, on jutting parapets, the scarlet of a Red Priest showed.

From the perspective of the cautiously progressing humans, it was hard to believe they were not witnessing crowds of their own kind, so natural and orderly were the movements. The hum of thought currents ebbed and flowed. "For what, after all," Professor Orcutt had asked, "are thoughts, if not a form of electrical discharge? And audible to us, in this case, because the vibrations are within the ambit permitted the human ear." Orcutt's mind felt the impact of them but that was all. It was like listening to the confused shoutings of a mob, where coherence was completely lost.

"Those Red Priests!" the professor muttered. "I guess they're away ahead when it comes to a double cross. I wonder if they're giving the orders right now, or if the military setup is on the job? There's a showdown coming, all right, between the two factions."

As if in answer, the thunderous croak of the Frog God suddenly shook the air. Three times it sounded. There was a pause. Twice more it came.

Orcutt's imagination had little difficulty in picturing

the enormous prehistoric beast rearing itself from the black pool of the temple, and he gave fervent thanks once again for the coincidence—for he could only call it that—which had saved him from the sacrificial croak of the Red Priests' Oracle.

They came in due course, after some twenty minutes of perilous wriggling, to a deep cleft below a group of flickering naphtha flames. Here was thick shadow, and for the first time they felt it reasonably safe to stand upright. Following its line, they arrived at a gap in the natural rock battlements and were confronted by a wide ramp of the kind which Professor Orcutt had met with in his prison quarters.

Dr. Wise said, "The ramp, of course, had to come before discovery of steps and stairways. A natural engineering progression, such as man himself has experienced. All this is amazingly interesting."

At the foot of the ramp was the inevitable tunnel opening. The more they penetrated the formicary, the more familiar became this sequence of chambered buildings connected by ramps and passageways. For some moments they reconnoitered the approaches, but could find no sign of a sentry. The hum from the streets was now less audible, but the rumble of the river was distinctly louder. The whip calls had ceased.

"Better light one of the naphtha torches," Dr. Wise said. "A small one. This place seems darker than most."

It was not long before they understood the reason for this. Hitherto, the tunnels—apart from the huge main tunnel—had been roughly fashioned and had their own natural misty lighting that emanated from encrustations of glowworms, or the sparkle of opal or other ores. But the almost circular walls here were smoothly cemented and were colored red and yellow.

Professor Orcutt was particularly excited by this discovery.

"See that, Wise. In the ant, as we know it—the tiny creature of our own world—there is no doubt it is blind to the longer wave length portions of the spectrum visible to us, the red and the yellow. We've seen that to be wrong in the case of the Ant Men already, because of their obvious veneration of red in their Red Priests. Here's further confirmation."

Nugget said, "They muster brought in red and yellow ochre from the desert outside and worked it in, like the boongs do."

"So their color and form world is, after all, not so very much different from ours," Dr. Wise commented. "What a sensation all this will be when we . . . when we get back to civilization."

"This is a main tunnel, I believe," Orcutt said. His bushy brows began to go up and down. "Yeah, and a real smart job at that. Now the termites—white ants, as we call them—are of a widely different structure from true ants. Consider the ant as craftsman. Take the *Myrmica scabrinodis* . . ."

"Exactly," Dr. Wise put in. "Or *M. rubra* of Ireland's Eye and Howth Head. Simple nests with few passages and chambers."

"Though, actually," Professor Orcutt said sharply, "size of the ant has little to do with the extent of the nest. The Bearded Tree Ant . . ."

"Probably an exception to the rule. I can't accept that as final, Orcutt."

"Now, see here, Wise. *Acanthomyops niger* . . ."

"*A. barbifex* . . ."

The other three looked at each other in comical despair.

"So help me," Nugget growled, "where do they think they are?"

He broke into the argument without apology.

"Save it, gents, will yer? A fat lot of good it'll be which of youse is right, if you get yerselves sawed in half by one of those Big Sticks."

"Class dismissed," Jugs added, grinning.

The two scientists came to themselves, muttering apologies.

Orcutt said, "Sure, sure, old-timer. What are we waiting for?"

The floor sloped at an increasingly sharp angle. They passed several side tunnels. Once they came on a squarish recess piled high with odd-looking bundles.

"Food storage," Dr. Wise suggested. "Some of the stuff they gave you to eat, Orcutt?"

"Could be." The professor put a specimen or two in his pack. "Fungus, I guess. That mess there looks like honey. Uneaten honey ferments. Maybe this is one of their barrooms. Ants eat fermented honey and get drunk."

Wise opened his mouth to reply, as they moved on and around a corner. Then he shut it with a snap.

They were back again in the glow of the naphtha, with before them a small group of Soldier Blacks.

"Mamma, mamma!" Nugget said.

He was lifting his rifle when Professor Orcutt said quickly, "Keep your head, old-timer. This is where we must try to hand them a line. Brains first. Brawn can have its turn later, if it has to be."

He lifted his hand, palm outward.

For long seconds, the two parties stood regarding each other. The suspense was almost unendurable.

The professor took a deep breath.

He said quietly, "They're friendly, I think. That one in front of them, anyhow. I can feel him putting it over. Don't move."

For the leading Ant Man had taken a step toward

them. His single antenna was swaying gently to and fro. Now he was fully in view, and a little gasp of astonishment escaped the watching humans.

The grasshopper face they had expected to see beneath the hooded head—and not even Professor Orcutt had until now had a plain, unshadowed view of a Soldier Black's physiognomy—was missing. Here were vaguely recognizable features. It was like seeing a human face through thick glass—blurred, amorphous—felt, rather than seen.

They were still staring amazedly when the Ant Man gave out a tiny sound. His antenna pointed rigidly. Before they quite knew what was happening, he had darted to where Nugget stood, with open mouth, and was standing with his shining black, jointed body swaying excitedly. His antenna came down to touch the old-timer gently on one shoulder, as a man might put a hand on that of a friend.

"Strike me bald!" Nugget shouted. His eye had caught a glint as of metal on a jointed arm. "May I be eternally transmogrified if it ain't Bracelet!"

Simultaneously, Dr. Wise and the two boys recognized the sentry they had seen struggling in the grip of the giant Mantis at the entrance to the formicary; lying, apparently dead, where he had been thrown, on Nugget's intervention.

Jugs said wildly, "Well, what do you know! Professor, this is the sentry we told you about."

Orcutt was trying to put himself in tune with the Ant Man's thoughts. He scarcely heard what Jugs said.

Response came from Bill. From behind the little group of waiting Soldier Blacks had stepped a second Ant Man, one with two antennae, marking civilian rank, and with great markings on the body.

"Here's Big Boy!"

Nugget said, "What? Mamma, mamma! It's like a

family party. Boys, we sure didn't think we'd meet up again."

"Can you pick up what they are saying, Orcutt?" Dr. Wise muttered, his lean face working with excitement.

"Yes. Wait a moment."

He was experiencing a second and even more significant astonishment. In some ways the second Ant Man, Big Boy . . . Yes, he was even more humanized. Orcutt found himself wondering mightily. Bracelet's eyes were as those of all the Ant Men he had so far encountered—round, black, staring. He thought, compound, giving an erect image at the retina, instead of our inverted one . . . guess they're still ant-sighted, most of them. But those of Big Boy were oval. They were soft and intelligent. There was even a kind of wistfulness about them.

Nugget was trying out the sign language he had found useful when encountering myall blacks. The movement of Bracelet's antenna suggested that he understood in part, but was still puzzled.

On an impulse Professor Orcutt stepped gently between them. Instantly the quivering feeler turned to him. There was a moment of pregnant pause. Then the Ant Man relaxed.

Orcutt wiped the sweat from his brow.

He said, "I got it. By glory, if the boys at Duke could be in on this. We can talk, Wise. Yeah . . . listen. He's saying he owes his life to Nugget here . . . to all of us. That giant Mantis—Imbrick, he calls them, or something like that—had him about all in when you and Gray came to his rescue. He understands what I'm saying. Telepathy, that's it. Animals know it. Our savage humans know it and practice it."

Bracelet was showing every sign of understanding and relief. Now and then he seemed to be consulting his civilian comrade.

Orcutt went on slowly, "He's asking who we are. I've

done the best I can to explain. Odd how this business works . . . Yes, that's right. I've told him we're friends. We got to this place by mistake, and all we want is out. Wise, Duke would never believe this. It's plain talking with the mind; not in words, mind you, but in understanding. This fellow's intelligent."

Bracelet had gone back to the little group of Soldier Blacks.

"I guess he's telling them we're okay. I can't get all of this, of course, but enough to make sense. There's something going on behind the scenes. I'll get it presently, maybe."

Bill asked, "What are they?"

"A scouting group. Bracelet's in charge. He's a kind of noncom. Look, he's sending them away."

"If they let on we're here," Jugs began apprehensively.

Dr. Wise said, "We need not fear that. From what you have told us, Orcutt, these blacks are definitely opposed to the authority of the Red Priests. Make it plain we're on the side of the military, and ready and able to help them."

"Sure. I've done that. I think he's sending word to those higher up."

Nugget growled, "Where does Big Boy come in?"

"I didn't ask, and I guess I won't. We're not getting too personal. A buddy of Bracelet's. Calling him Big Boy is humorous, seeing he's a whole lot smaller. Bracelet's asking us to follow him."

"He seems excited again," Dr. Wise said.

Orcutt explained, after a moment, "There's another party of blacks coming. A split from Bracelet's crowd. He's telling me that they are in with the Red Priests and we're sunk if they get us."

They went quickly after their new-found friends.

Suddenly Bracelet halted. If he was excited before,

now he was almost frantic. His antenna was violently agitated.

"By glory," Professor Orcutt said, struggling to understand. "It's the . . . the Imbricks . . . the giant Mantises. They've broken into the formicary . . ."

Confusion followed.

Bracelet was urging them into a new tunnel. It was in pitch-darkness and Nugget made haste to light his torch splinter again. The sudden spurt of light seemed to disconcert their guides, but only for an instant.

"Guess it's with them like it is with us," Orcutt said, as they stumbled on. "We take each other's crazy doings for granted. What's that?"

An enormous rasping sound had broken on their ears. It was unlike anything they had heard before, and it was fraught with infinite menace. Not even the raucous croak of the Frog God so filled them with disgust and apprehension.

Dr. Wise said, "What on earth can it be?"

The two Ant Men were making frantic signals.

"Double up, youse gents," Nugget barked.

They ran helter-skelter.

Now they saw that ahead of them the tunnel roof had opened for a space of some ten or twelve feet, the gap being crossed by beams that looked to be made from ant-bed clay. Already Bracelet and his companion had arrived at the top, the first hauling himself lightly and easily, but Big Boy in a single graceful bound.

They were too hard-pressed to do more than note this seeming miracle. It was only when they themselves were securely on the beams that Dr. Wise commented breathlessly: "A Black Jumper Ant strain in that chap, Orcutt. He took the height as easily as I'd jump a foot."

Nugget had extinguished the torch, but the reek of it was in their eyes. The old-timer was grunting and

flexing his sturdy muscles and muttering his favorite "mamma, mamma!" Being the strongest and sturdiest of them, he had made pillars of his legs and body for the others to climb on, helped in his turn by reaching hands and much ejaculation on his own part. Through all this Bracelet and Big Boy could be felt encouraging them. The broad beams held them safely, if a trifle uncomfortably.

"Unfinished storage chamber," Dr. Wise summed up their surroundings. He made no attempt to speak carefully, for the whole tunnel was echoing now with the rasp of advancing movement.

"You'd think it was an express train," Bill said.

"Off the rails," Jugs added. "Or like a heap of old junk being towed along at the end of a rope."

The professor told them, "It's a body of the giant Mantises. Bracelet tells me that some traitors in the formicary found them a way in at the main tunnel. There's been a minor battle at the entrance. Before the greens could rally enough blacks to turn the tide, there was quite a break-through. Some hundreds of the Mantises, I gather."

"Not so hot," Jugs said in Bill's ear. "How are you feeling, pal?"

"Pretty bad."

They exchanged a handclasp.

"Hi, Pommy!"

"Hi, Aussie!"

The ritual made them feel better. Nevertheless, they could not avoid a chill of fear. Ant Men, yes. There was something reassuring in them—in some of them, anyhow, like Bracelet and his companion, Big Boy. But these fantastic horrors from the desert pans! These sticklike creatures, with their snapping beaks and sawlike arms! Surely nothing more shocking could have survived from the aeons of the past.

Nugget called, "Here they come! Hold tight, fer mike's sake!"

The noise was deafening. The Big Sticks, forced by the confined space of the tunnel, were crawling full-length. Except for the rasp of dragging limbs they were silent. Most amazing of all, as they came a faint mist of light accompanied them. Professor Orcutt explained later that the bodies of the Mantises were able to phosphoresce—emit a faint light with very slow combustion and no sensible heat, and thus to light their way in the dark. If it was not that, he said, he did not know what it was. It was, after all, but one of the strange phenomena of this utterly incredible survival from the mists of antiquity.

Dr. Wise, staring down at the swirling phosphorescence, told himself that all this was past belief. It was somehow insane. And yet, by stretching out a hand he could almost have touched the indecency beneath them. No, he was sane and wide-awake, and these things were happening under his very senses. If, by chance, one of these Big Sticks looked upward! But he stifled even thought of such a thing, lest somehow it touch the instincts of the evil creatures.

By the time the crawling column had passed and the reverberating echoes had died, they were in a sweat of suspense. Bracelet and Big Boy plainly showed their relief. The relighted torch showed them making signs for the humans to descend to floor level. They did so gladly.

"I wouldn't go through that again," Jugs said, "for a fortune. And what an odor!"

"Yeah," Nugget growled. "One stink after another. Camels ain't in the race with them crawling cannibals. Mamma, mammal!"

Professor Orcutt said, "Bracelet has sent word along to his Officer Green. He thinks he'll be here any minute. Meantime, there's someplace he wants us in. He says we

ought to be safe there from both the red renegades and the Mantises—Imbricks, as he calls them. Those are the letters I get, anyhow."

"Big Sticks will do me," Bill said.

"Funny," Jugs put in. "Imbricks—Big Sticks. They sound a bit alike."

"Accident," Professor Orcutt said. "I have to provide my own phonetics, you know, Gray. But it's curious, all the same."

"The pattern, the shape of the Mantises," Dr. Wise said, "is identical in the minds of both Bracelet and ourselves. They look like big sticks—just that. Perhaps the conjunction is not so strange, after all."

"Me," Nugget said, "I'm all for these two guys, even if they are chock full of formic acid."

"Not Big Boy," Bill reminded him. "He's what we call a civilian. The civvies have a pair of feelers. They seem to be smaller built, too."

"Big Boy could be just a runt," Orcutt said. Something appeared to perplex him. He frowned and shook his head. Whatever the thought was, it remained at the back of his mind. "No matter . . . well, we seem to be there, wherever it is. Yes, I thought that would make you rub your eyes."

A portion of the tunnel wall had drawn smoothly open, just as it had in Orcutt's cell.

If this intrigued his companions, he himself was astounded to recognize the Officer Green now confronting them as the Ant Man who had had charge of him before his escape.

"Could be trouble here," the professor muttered. "I could have got this guy in bad with the Red Priests. I wouldn't blame him if he wanted to take it out on me. No, sir."

But his misgivings went immediately. The green was saying to him, "So we meet again. And here with you

are the others of your queer company. I am told you already know of the revolt of our army against the rule of the Frog God's priests. Also, that the Imbricks have gained entry to our city."

"We're on your side," Orcutt's mind gave out in reply. "We're ready to fight both your foes. You're being decent to us, and we humans pay our debts."

He patted his rifle, and indicated those of his companions.

"What does he say?" Dr. Wise asked anxiously.

"He says his bosses know we're here. They are disturbed by this break-in by the Mantises, and they're prepared to do the right thing by us if we join them in the fight that's coming."

Nugget said, "What does that mean, Prof? Going to let us out here afterward, are they?"

Chapter 18 The Big Ones

THE PROFESSOR hesitated. He looked around him, noted the eager faces of Jugs and Bill, and was half tempted to temper the wind to the shorn lamb. But he disliked prevarication. Better the truth, he thought, however depressing.

He said, "Unfortunately, that is not in their minds as yet. I suggested it, but they side-stepped me."

"But why won't they?" Bill burst out.

"Because they're curious about us. When all this business is over—naturally in their favor, they hope—they will settle down to make a study of us. If they are strange to us, we are equally strange to them."

Dr. Wise said, "After all, theirs is a logical point of view. We're completely at their mercy. The fact that we willingly join them against their enemies doesn't really come into things at all. We'd offer that, if only as a matter of policy."

"In other words," Jugs said, "we've nothing really to bargain with."

"That's so," Orcutt said. "Suppose, now, back home we came on beings from another planet, we'd want to keep them until we found out all about them, wouldn't we?"

Nugget, scratching his neck, rumbled, "Not me, I wouldn't. I ain't no collector of freaks. Anything for a quiet life suits me."

Professor Orcutt said, "Let us appear to fall in with their plans. Keep your thoughts away from our chances of getting clear. This telepathy business is okay—I'm proving it right now. But we don't really know how it works. Could be a one-way pickup with these folks, meaning Big Boy over there might understand what any of the rest of us was thinking, now they've found out through me the human wave length. I can't put it more sensibly than that. While none of you would know what he was thinking. See what I mean?"

They nodded dejectedly.

Bill said, "I've got a feeling that even if those two did get to know any of our plans, they'd not give us away. Nugget and Jugs saved Bracelet's life and he knows it and his gratitude is plain. And that goes for Big Boy, too."

"Sure. But their loyalty to their own kind might come first. That probably would depend on circumstances."

The Officer Green was turning toward them.

Orcutt said, "We're to follow him. This is where we meet the big cheese, maybe."

Bracelet acted as a rear guard. Big Boy, they saw, had gone back down the tunnel.

"Military headquarters," Jugs bazzarded. "Ordinary blokes not allowed in without a pass."

Bill grinned.

"Just like home, isn't it?"

"Youse kids pipe down," Nugget barked. He was more than a little confused by the professor's reference to telepathy, but in his forthright way he sought to uphold his understanding of it. "You heard what the old prof said, didn't youse? No thinking."

Only Dr. Wise's warning frown stopped the boys from bursting into laughter.

Jugs said weakly, "You'll be all right, anyhow, Nugget."

"What's that?" the old-timer asked suspiciously. "You do as youse is told—see? We don't want nobody to know

we ain't going to stop in this hole any longer than it suits us, do we? Yeah, well, stop thinking."

Bill sputtered.

Dr. Wise said tactfully, "All right, Nugget, they understand. I think it would be best if we didn't talk. Professor Orcutt will need all the quiet he can get, if he is to interpret the coming interview for us."

"Okay, okay," Nugget growled.

He shook his head in a bewildered way and muttered, "Mamma, mamma!"

They were by now becoming accustomed to the architectural vagaries of this underground world, yet they could still find surprise at the enormous cavern in which they now found themselves. It became increasingly evident that the formicary was founded on a vast natural labyrinth, the Ant Men bringing to surroundings formed by volcanic action millions of years ago a shaping and fashioning of their own design.

If the little party of humans had marveled before at the weird glow lighting so many of the tunnels and chambers through which they had passed, the effect now was staggering. The arched ribs of the cavern roof, the forest of stalagmites and stalactites, seemed to be formed out of solid masses of glowworms, with the intervening wall curves and buttresses compacted with the rainbow fires of black opal ore. The effect was that of full moonlight. One could have read a newspaper without any difficulty whatever.

Nugget stared about him in a kind of dream. He had gouged for opal on the fields of Lightning Ridge and White Cliffs and Coober Pedy, and here were unimagined riches. Australia, as he knew, was the single world-home of the magnificent black opal, but who could have guessed at this Aladdin's cave! The old-timer's mouth fell open and little rumbling noises escaped him.

After one astonished glance, the attention of the others

had gone to a kind of dais at the center of the council chamber—as it obviously was—where a huge green stood, in a group of some half a dozen others.

It went through Professor Orcutt's mind, these Ant Folks haven't got to the stage yet where they can sit. They can only stand or lie.

Almost instantly, to his confusion, he found the mind of the Green Chief speaking to him.

"What do you mean by . . . seet, is it?"

"To fold up . . ." Orcutt mimicked a sitting position.

"Who are you?"

"We call ourselves men. We have named you Ant Men, because in ways we are alike. There is man in you, as well as ant—that is, as we have named your kind. In us there is no blending. Man is only man."

As with the Red Priests, he could feel their minds searching and probing his own. He believed that, on the whole, they understood him as he understood them. Every second was adjusting and firming the influence of one mind upon another, without the physical medium of the senses.

Then came his crowning astonishment.

From Bracelet and Greenie (as the boys had promptly christened the Officer Green of Orcutt's acquaintance) had come small odd sounds once or twice. But now there came from his interrogator an articulation so nearly approximating to speech that Dr. Wise, overcome with his scientific enthusiasm, could not restrain an exclamation.

"By heavens, Orcutt . . . he's trying to *speak*!"

But the chief, although he managed the semblance of a voice, got no further. It was intelligent sound, but it conveyed no meaning. The significance of it was that plainly the highest developed among the Ant Men had reached the crucial line dividing the human and brute kingdoms. Once the border was crossed, Dr. Wise told

himself, and reasoning came with speech, a new species altogether would enter the human race. He was stupefied by the marvel of it.

After that one effort, however, the chief was no longer audible. Professor Orcutt, groping his way through the maze of their intermingling thought waves, gave an account of his party, as best he could. In return, he learned that the Military Council of the Ant Men was prepared to regard them as friends sent by a god named Lumi—this was how Orcutt interpreted the thought symbol—who had for many ages struggled against the Frog God of Ant Men antiquity. Lumi, Orcutt gathered, revealed his presence in the light (or illumination, ran Orcutt's flashing counterthought) cast by the naphtha fires. He had been there from the very beginning, but was only now becoming recognized as the True God. The Red Priests, fearing Lumi's growing influence, had betrayed the formicary to the giant Mantises. Now the battle was joined. The army, deciding for Lumi, was at last taking open action. The break-in of the Imbricks, the Mantises, had brought matters to a head.

Ten minutes later, the professor, on the point of mental exhaustion, was alone with his companions again. They were in a small anteroom and had been given food and water, and were now resting and eagerly waiting to hear Orcutt's account of the interview. When he had cleared his mind of its almost frightening experience, he gave it to them.

"At the very last," he continued, "the chief told me that the army was moving immediately against the giant Mantises inside the formicary. The greens and blacks know the lethal effect of our rifles, although the nature of these still has them badly puzzled. They seem to think that the rifles are literally a kind of vastly improved acid jet, which is part of our bodies, yet has a separate existence."

"Mamma, mamma!" Nugget muttered.

"We are to be allotted positions someplace close to the naphtha lake, as you call it. They appear to believe that Lumi has his temple where the fires are brightest and most numerous, though apparently they do not connect the fires with the lake itself."

"On our own?" Nugget asked.

"Greenie is taking charge of us," Orcutt said wearily. "I know what's in your mind, old-timer, but I don't see how we're going to find a chance to get out of here, and that's a fact. Greenie and Bracelet will be standing over us. I've tried to get their ideas of how we stand with them, but something's jamming reception there."

Dr. Wise said, "How long have we got?"

"Not long, I think. Maybe half an hour or so. We're sure in a mess, boys. They're friendly enough so far but they mean to hold us. Guess we'll be left holding the bag."

Nugget bristled.

"Shoot our way out, I says. Them jets . . . use our shirts fer bags over our heads. Strike me bandy!"

"No use going off the deep end," Jugs said sensibly. "We wouldn't have a hope. Pull your head in."

"Yeah. Well, you listen to me, young Jay. I ain't afraid."

Dr. Wise put in quietly, "It's a matter of common sense, Nugget. Foolhardiness won't get us anywhere. All we can do is bide our time and see what opportunity brings us."

"Bracelet . . ." Bill began.

"The fact that Professor Orcutt cannot touch Bracelet's mind here, or Greenie's either, is pretty fair evidence that however much they may sympathize with us, or like us, or whatever you will, when it comes to loyalty to the cause they cannot or will not go against the chief's decision."

Nugget said, scratching his neck, "I ain't much of a

book bloke, but I read a yarn once where a detective ran down his best pal on a murder rap and got him strung up. He kinder never smiled again."

"You hit it, old-timer," Professor Orcutt said. "It's tough, but there it is. They've got their notions of duty, same as we have. I don't hold it against them. I like a square shooter, even if I have to be the target."

"I see that, sir," Bill said. "You're right, of course."

He grinned at Jugs.

"Hi, Aussie!"

"Hi, Pommy!"

"Dashed fool kids," Nugget growled.

Jugs said, "Why don't you get us out of this, Nugget?"

"Me! Why pick on me?"

"It ought to be a snap. Look how you got away that time in Dutch New Guinea, when the Japs buried you alive twenty feet under the kunai grass, and you found a big worm cast and crawled down it for fifty miles and then came out at Port Moresby!"

"Yeah. Well, I . . . I meanersay, I was younger then. I hadn't got my screwmaticks neither. Youse shut up, young Jay, before I'm mad."

The boys chuckled joyfully.

"Pneumatics, you mean, don't you?" Bill asked innocently.

"That's what I said."

"And he swelled up like a rheumatic tire," Jugs contributed.

Dr. Wise said, "Quiet, all of you. Even if there's no time to sleep, let us at least get what rest we can."

The boys stretched out obediently. Dr. Wise did the same.

"Plenty of spunk, them two," Nugget murmured.

He felt for his pipe—a comfort of which circumstances had robbed him for days past—and fingered it lovingly, but he withheld the temptation. The reactions of the

Ant Men to the smell and smoke of tobacco were extremely doubtful, the old-timer thought. They might even take him for this Lumi idol of theirs and wall him up someplace and say their prayers to him.

He told himself, I better save what terbaccer I got for the celingbration when we gets outter here.

The professor was writing in his notebook. He had an uncomfortable feeling that he was wasting his time, but the habit of recording his impressions was too well established to shake off. He was not altogether without hope. Maybe they'd be given a real break. And what an atom bomb he had to drop on Duke and the rest of them!

He had scarcely finished checking what he had written, when Greenie and Bracelet came for them. He roused his companions and they got their packs together. They had already seen to their rifles.

The rest, brief though it was, had refreshed Orcutt's mind. He was learning fast to disregard all but the main stream of extrasensory perception.

He said now, "They've lost touch for a moment with the Mantises in the formicary. A lot of their tunnel guards are missing, and that tells its own story. They've got scouting parties out trying to pick up the Big Sticks. So far as Greenie knows, they broke in somewhere upstream and are divided into two lots. The chief thinks one lot anyhow will make for the naphtha lake, it being Lumi's temple, sort of. Sacred. If they can capture that, they'll put the skids on the morale of the civilians. Or maybe. It isn't a risk they want to take."

Dr. Wise said, "It seems you can't get away from politics, even in a lost world like this. Just exactly what are we to do, Orcutt?"

"Guard the lakeside nearest the river," the professor said. "Bracelet tells me they're setting an ambush of picked blacks at the tunnel end of the lake. We're to lie doggo ourselves until we get our orders. Then we've a

free hand, so to speak. But, in a general way, Greenie runs us."

"The Big Sticks mightn't turn up," Jugs said. "They may have other plans of their own."

"That's so," Nugget nodded. "If they're in cahoots with these here Frog God Reds, they'll have some brains on their side."

"Leadership," Dr. Wise said. "In the Battle of the Pans the Mantises fought like a mob. It would be interesting to know how the Red Priests managed to form an alliance with them. It suggests that the Mantises are themselves capable of some sort of communication or thought transmission."

The professor said, "We know nothing, after all, about the insect world. In their own way, the giant Mantises must have developed mentally over all these millions of years of uninterrupted sameness. This crater desert has somehow escaped change. I can't give you the theory on that. It's just one of those things. Maybe in the light of what we learned here . . . But that comes later, if it comes at all."

"As I think I told you, boys," Dr. Wise came in, "the word mantis is derived from the Greek, and means a diviner. Even as we know them outside this lost world, although their size has shrunk almost to nothing, they still retain their singularity of shape and the ferocity of their giant ancestors."

They had by now left the huge council cavern and were moving along a wide square tunnel, with Greenie in the lead. Bracelet, as before, came at their heels.

Dr. Wise said whimsically, "They're taking no chances of our making a bolt for it. This opal wall formation is extraordinary, Orcutt. We must be at the heart of a gigantic mother lode."

Their ears caught the now familiar rustling of intermingling thought waves. The tunnel opened out into a

broad thoroughfare, faintly lighted by the naphtha glow coming through vents high up in the walls. The glow-worm formations and the shimmer of ores had given place to a smooth ant-bed plaster.

All about them now were scurrying gray neuters, with here and there a directing green or black. Strange creatures of horrifying appearance wandered through the medley, bringing an exclamation of disgust from Nugget.

"Watch out fer them overgrown bugs, youse kids."

The professor reassured him.

"They're harmless, old-timer. The big brown ones are obviously some of the Lomechusines, the beetle parasites usually to be found in an ant nest. There are the aphides too—see. Those long white soft-bodied creatures. Ant cows. That stuff they gave us to drink was aphides' milk."

Bill slid aside to let pass a thing like a many-legged lizard, with long, curving feelers.

"Cockroach," Dr. Wise said, with a shudder. "Formicary slave."

Their way steadily dipped. The sound of the river was coming to them with increasing volume. They entered a second thoroughfare. From high beams hung great nests of earth, sprouting green blades.

Nugget growled, "What's them?"

"Suspended gardens," Professor Orcutt said. His voice shook with excitement. "Our little ants still have them. They bring in seeds from outside and plant them. And see there," he said, pointing to a number of black, globular objects clinging to a beam, "honeypot ants. We've got them in Colorado. Wise, I don't mind giving my life to have seen all this. It's . . . it's stupendous!"

Wise said, no less excited, "I wish we could see the nurseries, Orcutt. Ant Man mothers and children . . ."

"I guess they're pretty well walled up out of harm's way," the professor said. "Yes, and their hospitals. Bless my soul! If only we'd brought the cameras."

"We'd need an infrared setup in a misty light like this, though, wouldn't we, sir?" Jugs asked.

"Maybe, Gray. Greenie's telling us to get a move on. I guess we're not far from this naphtha lake of yours."

"There's that dingbusted Frog God!" Nugget said, as the air quivered to a sullen roar.

They went through a last tunnel and the full light of the naphtha fires circling the lake horizon burst on them.

The professor, who met the scene for the first time, gasped.

"Looks like something out of Dante's *Inferno*!"

Across the naphtha lake loomed the black shadow of the tunnel exit used by Dr. Wise and his companions on their first experience of the great bitumen pit. To one side, Soldier Blacks were deploying among the rock gullies. Here and there they caught the sheen of a directing officer.

Professor Orcutt said, "Our position is here, on the riverside. We're to lie still until things happen."

"Could you ask Bracelet where his friend is, sir?" Bill said. He grinned at Jugs. "Those two stick around together like we do . . ."

"He says he doesn't know," Orcutt told them presently. He added, "I kind of get the idea he's not feeling too happy about Big Boy."

"Why, sir?"

"He clammed up, when I asked him. Maybe it's because his buddy is on the civilian side, and if the Red Priests and the Mantises get control of the formicary center, the chair sitters could find themselves out on a limb."

Orcutt frowned. The thought that had stirred at the back of his mind sometime before was again tantalizing him. And again it eluded him.

They settled themselves undercover. The soldiers on

the other side of the naphtha lake were no longer to be seen. The planned ambush was ready and waiting.

Jugs and Bill, stretched side by side, could hear the two scientists talking in low tones.

"After all, Wise, the acid jets of the blacks needn't surprise us. We find the modern equivalent with our acid-squirting *Formicinae* . . . *Acanthomyops fuliginosus* . . . the Jet Black Ant."

"Yes. They carry a smell of formic acid around with them. It's like that with the Soldier Blacks here."

Nugget's growl came in, "Yeah. More stinks. This here formic stuff, and naphther. Gimme a sniff of a good old garbage can again."

"I wouldn't mind it myself," Bill muttered wistfully. "Think we'll ever get out of here, Jugs? No kidding."

Jugs said stoutly, "Miracles do happen."

"Okay. Go on being a sunbeam. What was that stuff they gave us to eat?"

"Why ask me? A sort of fungus, some of it. Tasted all right, anyhow. The bits like spinach probably came from those suspended gardens the prof pointed out."

"Saved us digging into our own supply, anyhow," Bill said. "Maybe, if we're lucky, we'll find a use for that."

Nugget's voice said, "Well, strike me pink! Look who's here."

They scrambled to their knees to see Big Boy standing in the cleft of a rock, the naphtha glow playing over the sheen of his slender black body, with its curious green markings.

While they stared, Bracelet came from the shadows to join him.

Suddenly the thought in Professor Orcutt's mind crystallized. He slapped his knee.

"That's it! I have it! Big Boy, as we call him, is an Ant Woman."

"Mamma, mamma," Nugget grumbled. "Does it matter?"

The others exchanged interested glances.

Dr. Wise said, in his quiet voice, "Only that it gives these people a more human touch. Even with us, men and women have fought side by side to resist an enemy."

"Yes," Orcutt agreed, "that's so. And they become good comrades. I guess that's why I couldn't properly get into Bracelet's mind. Those two are soldier friends in spirit, even if the Ant Woman isn't actually in the fighting line."

"The last touch that is bringing the Ant Men people over the border to true man," Dr. Wise said. "I'm glad we're on their side, Orcutt."

"So am I. Mighty glad."

They were still marveling when a message came to the professor. They saw that Greenie and Bracelet were making signs to them. The Ant Woman had vanished.

"The Mantises are coming," Orcutt said.

A grunt of satisfaction came from Nugget. His faded blue eyes took stock of the surroundings.

"Check your guns, youse kids. Sight up to 500, I guess. The Big Sticks are kinder yellow. Not easy to pick out in this here light, but you can't mistake our black coves for them, anyway. Do we shoot on sight, Prof?"

"I guess so. We don't show up, though, until the Mantises are well in the open."

"Then, whacko!" the old-timer grunted. "Strike me fat, if we don't give these big, walking logs something to write home about."

Jugs nudged his pal.

"Listen to the big talk."

"Okay," Nugget threatened, out of the side of his mouth. "Wait till I get youse on your own, young Jay. It's been coming to youse for a long time. Mamma, mamma!"

"We keep together," Professor Orcutt ordered. "No scattering. Don't let the Mantises get to close quarters. We've the advantage of them there. Down out of sight. And no more talking."

Jugs whispered, "Hi, Pommy!"

"Hi, Aussie!"

Their hands met.

They heard Nugget spit disgustedly.

Jugs grinned, and mimicked, "Youse silly kids."

"I wouldn't know," Bill breathed.

In the tense pause they could hear their hearts hammering.

They had not long to wait. There came a faint series of rasping echoes from the direction of the main tunnel mouth. They could picture the Big Sticks, half erect, half lying, dragging themselves along the limestone floor, trailing their cranelike limbs with a feverish energy, chuckling and gobbling as they came—the tigers of the insect world.

Now the leaders were into the open and rising like thrusting poles, swaying from side to side. The Big Sticks were literally pouring from the tunnel mouth. The massed yellow of their crowding bodies shone dully behind the pink mist gauze of the thousand naphtha flames high above. A more grotesque scene it was impossible to imagine, Dr. Wise thought, staring from his hiding place. In a horrible kind of way it suggested an enormous pantomime setting.

A sudden loud whipcrack cut through the tension. It ran reverberating from side to side of the great naphtha bowl, to be lost in a furious hooting and chuckling, as the giant Mantises, now aware of the ambush, turned to meet the Ant Men coming from cover. Magnified by the mist off the surging naphtha lake, the figures of the Big Sticks appeared enormous as they darted backward and forward in the laced pattern of the silver streams of

acid. After that one resounding whip call the Ant Men were silent, but the hooting of the Mantises was almost deafening.

Dr. Wise cried, aghast, "Hold your fire until things clear a bit. They're too intermingled . . ."

"Mamma, mamma!" Nugget yelled. He shook his rifle despairingly. "Won't nobody stand still a moment?"

The Battle of the Pans was as nothing to this, Jugs told himself breathlessly. He was alarmed to see that the acid jets appeared to have little effect on the thick-plated bodies of the Mantises. Their vulnerable parts, so far as he could make out, were their heads and the softer-skinned flesh of their limb joints.

Nevertheless, the Mantises were falling. The Ant Men, having shot their jets, attacked with their hooked jaws. A Big Stick, with half a dozen blacks clinging to it, whirled madly and overbalanced into the boiling bitumen. Two of the blacks sprang clear just in time. A Mantis reached for them, with a furious clacking of toothed forearms. And at that moment, seeing his chance, Nugget fired. The Big Stick went down and the all but victims vanished in the turmoil.

Bill found time to glance at Greenie and Bracelet. They were standing like statues. He remembered then that his own party had strict orders to guard the river-side of the naphtha lake. The explosion of Dr. Wise's rifle brought him out of his dreaming. He lifted his own weapon and took a pot shot at a Big Stick, missed, and chattered with rage.

The haze was steadily growing under the drifting acid fumes and the disturbed steam from the naphtha lake. The battle was beginning to surge in their direction. Now and again knots of fighting bodies came reeling from the crush, to be caught up again in the advancing wave.

Professor Orcutt shouted, "We're getting the worst of it. The Mantises are in greater strength than was

thought. Greenie's gone back the way we came, to try for reinforcements."

Nugget fired again. He cried "Tally" and slid a new clip into a smoking breech.

Jugs called, "Where's Bracelet?"

No one knew.

"Maybe he went with Greenie."

"I don't think so, Wise."

Bill said excitedly, "Look! I bet that's him."

A solitary black was skirting the lake shore. What his purpose was they could only guess.

"Scouting, I reckon," Nugget growled. "The silly mutt. Go it, boy, Good on yer. Prof?"

"What is it, old-timer?"

"Stone the crows! I'm going after him."

Orcutt bawled, "You stay right here. He knows what he's doing."

"Strike me bandy! He'll get himself sawed in half."

Dr. Wise, sensing the rebellion in Nugget, shouted in his ear, "Once we get separated again we're finished. Bracelet's under orders. A soldier does what he's told."

"Okay, okay. Guess I was thinking of Big Boy. Mamma, mamma!"

The uproar was hideous.

Bracelet was no longer in sight. But, moving out of the mist, came a number of blacks, fiercely pursued by three Mantises. A snapping arm caught one and seemed to break him in halves. Nugget and Jugs fired simultaneously. The Big Sticks weaved a moment with threshing limbs, then crashed like falling spars.

And at that moment an eddy of wind brought by the sway of the fighting made a brief rift in the haze. The main tunnel mouth stood out with startling clarity. Its black funnel appeared to shake and dissolve and then re-form into the shining bodies of a running host of reinforcing Ant Men.

The mist closed down again, a rainbow curtain across which writhed the dark shadows cast by the combatants behind it. It split in a score of places, to let through a swarm of retreating Mantises.

"Mamma, mamma!" Nugget yelled. "The Big Sticks are on the run. Steady does it, youse kids. Each man pick his mark."

He fired on the words, and the foremost Mantis went down. Half a dozen more climbed over or around him. They shot three more of the things in quick succession, but it was like trying to stop a herd of stampeding elephants.

Only then did they realize their danger.

Chapter 19 Holocaust

A BIG STICK, looming without warning, reached for Professor Orcutt. Bill shot the thing through the throat, and it went down with a horrible chuckling, spitting venomously.

Nugget shouted, "Spread out a bit, but keep together."

His clip was empty. There was no time to reload. Clubbing his rifle, he was about to run in on his nearest opponent when a silver streak shot past him and a reek of formic acid stung his bursting lungs. Out of the tail of his eye, as he stumbled sideways, he saw a score of shining bodies closing in on the now retreating Mantis.

"Good old Greenie," Jugs mumbled.

Caught between two fires, the Big Sticks were a tangle of swaying limbs. The Ant Men followed up the streams of scalding, blinding acid with an infighting that brought hoarse cheers from the disheveled professor, who in his younger days had won many an amateur bout by his ring tactics. An odd Mantis broke clear of the jaw grips of the clinging blacks and took to lumbering flight, but for most of them it was the end.

Dr. Wise, wiping the sweat from his eyes, advised, "We'd better fall out for the time being—not safe to shoot now. Are you boys all right?"

Jugs had a torn arm. Otherwise they had escaped injury.

They withdrew a little toward the river, and Dr. Wise brought a dressing kit from his pack and roughly bandaged the slight wound.

"You never know. Those Mantis scales could be poisonous. What was that, Nugget?"

The old-timer, rummaging for more cartridges, suddenly exclaimed, "Mamma, mamma!

"I'd forgotten all about this here gelignite," he panted, holding up a sizable tin. "What about it?"

Professor Orcutt said quickly, "Too dangerous. And, besides, the Ant Men have got things pretty well as we want them, for the time being."

"Okay, if you say so."

Jugs said, "What do you mean by the time being, sir? The Big Sticks are about finished by the look of things."

Orcutt reminded them, "The Mantises split into two parties. Greenie thinks the second lot are upstream someplace. And the Red Priests are leading a party of renegades back there in the formicary. Our main army is held there, with the chief in command."

"Something's amusing you?" Dr. Wise said.

The professor, tugging his beard, grinned.

"Yeah. Though maybe it's not so funny after all. As I get it from Greenie here, they've brought that darned great prehistoric bug out of its pool and are carting it around among the citizen crowds to sort of scare their allegiance."

"What! The Frog God?"

"I guess so, Carey. As a kind of mascot. By glory! Listen there, will you?"

There came faintly to their ears the enormous croaking bark of the Red Priests' Oracle.

"Starve the crows!" Nugget said. "How would they handle an insect that big? You see it, Prof?"

"It must weigh a ton or more. I wouldn't know . . . Just a minute."

He was looking about him in a puzzled way.

The others followed his gaze, but saw only the reforming Soldier Blacks moving through the curtain of mist along the shores of the naphtha lake, and, closer at hand, the thrusting limbs of the slain Mantises. They gave the curious effect of a junk yard of broken-up derricks.

"I don't see Greenie," Orcutt muttered.

Bill said, "He was called over by another green, sir."

"Okay, okay," the professor said. "You'd better rest up and have a bite to eat. I'll be back in a minute."

He paused presently by a rock pile, his mind trying to touch this new and softly pulsing wave of incoming thought. And quite suddenly he caught sight of the Ant Woman. She was standing half hidden in a cleft, her feelers trembling and swaying as delicately and beautifully as those of a butterfly. Orcutt knew a queer constriction at his throat. He stepped close to her.

It was an experience he never forgot. In afterlife, he told himself again and again, this was the supreme moment of the most amazing harking back, as it were, to primal telepathic understanding. Though he was never to touch it again, it brought to him the true nature, the Edenic quality, of extrasensory perception, as the science of his day fumblingly named it.

"Where is Ior?"

I guess she means Bracelet, Orcutt's inmost thought ran.

"I do not know. But I am sure no harm has come to him."

"You are kind, stranger. Who are you?"

"We call ourselves men. We come from a world outside."

"The stars?"

"No. Your world. But another part of it. Perhaps you do not understand."

"No, I cannot understand. Yet, whoever you are, you men saved Ior from the Imbrick. For that Japu loves you."

"You are Japu?"

"Yes."

"Who is Ior?"

"My brother."

"We are glad that we gave Ior back to you."

"Ior would set you free only the chief will not agree. He thinks our people can learn much from you."

"We could not live here. It is not our world. We came here only by chance. We have only peace in our hearts for your people."

"I have pleaded with Ior, but he is afraid."

"Of the chief?"

"Of the chief. And because even if he sets you free from himself you could not escape from our city. There is no way but by the big street."

"We are willing to risk that. We would try to escape without harm to your people. If you do this thing we will always love you."

For a moment the professor's mind went blank. Then a sweetness came over it, which he could only liken to a kind of mental perfume.

"I think for my sake he will do it."

"Bless you, Japu."

"I do not understand."

She was gone.

Professor Orcutt felt like a man coming out of a dream. His whole body trembled and he was soaked in perspiration.

"Bless my immortal soul!"

He must have looked as he felt, for when he rejoined his companions Dr. Wise asked sharply, "You're ill, Orcutt?"

"Just this heat, I guess. I'm okay."

Only for a moment was he tempted to speak of his interchange with Big Boy . . . Japu, then his jaws clamped. He said to himself, I guess I won't. Something kind of . . . kind of sacred. Maybe it didn't even happen.

Nugget put in, "We've been trying to make some sort of plan, Prof. Supposing we can give these guys the slip . . ."

"Ior . . ." Orcutt began. He coughed, and said, "I have a feeling Bracelet will even up the score when the time comes. He won't stand in our way if we make a break for it."

"You've been talking to him?" Dr. Wise asked hopefully.

The professor said, "No. I haven't seen him this long while. I have a hunch, that's all."

"Yeah, well . . ." Nugget said impatiently, "supposing we shake him and Greenie off somehow. We could lie quiet up there by the main tunnel and pick our time for crawling in. They'll be off after them other Big Sticks and no time to be looking for us."

"That's right," Jugs said. "There are plenty of places to slip into along the main tunnel, if we hear anyone coming. Then we can just make a dive for the open and chance the ducks."

Bill said, "Which, even if we get past the Ant Men, might turn out to be Big Sticks."

"Yeah. Well, we got to chance something, feller."

"Can you think of an alternative, Orcutt?" Dr. Wise asked.

The professor shook his head.

"Obviously, if we are to get out it will have to be by the main tunnel."

"How about getting upstream?" Bill suggested. "That croc on the pans must have found a place to crawl up and out."

"We walk on the water?" Jugs asked politely.

"Come out of it, Aussie. You found an Ant Men raft, didn't you? There may be others."

"It's an idea," Dr. Wise said. "Nugget, suppose you and Carey get quietly down to the riverbank and see what you can find. No one's taking much notice of us at the moment."

Nugget got to his feet.

"Come on, young Jay."

When the two had vanished in the haze, Wise said, "Not that I think an opportunity will come, Orcutt."

"I think it will."

"What makes you say that?"

The professor was silent a moment. Then he said slowly, "Just a hunch, Wise."

"I hope it's a good one, sir," Bill said.

"Yeah. Feeling kind of low, Carey?"

Bill said, trying to hold the wobble from his voice, "No, sir. Of course we'll get out. It stands to reason. It's . . . I mean, I wouldn't have missed this for anything. That's the way Jugs looks at it too."

"We'll be none so bad," Dr. Wise said quietly, "while we can keep our spirits up."

They were still sitting silently when Nugget and Jugs came back.

The old-timer said, "Strike me bandy! What do yer know? There's a coupler rafts tied up down there right now."

"And not a sign of an Ant Man," Jugs added excitedly. "If we nip down . . ."

Dr. Wise said, "Too late for now, Gray. Greenie and Bracelet are coming back."

"Mamma, mamma!" Nugget mourned. "Yeah, wouldn't it? We got the luck of a dead Chinaman."

"Easy, old-timer," the professor said. "Could be our luck is just on the turn. These two are mighty fine guys."

But to himself he was saying, Even if Big Boy can work it with Bracelet, that still leaves Greenie. And he's the big noise where Bracelet is concerned. One thing: they're by themselves.

"What's cooking now?" Nugget growled, as the Ant Men came near to them.

The professor was already in tune with the Ant Men's minds.

"They've cleared this area of the Mantises. So far they haven't traced the second lot. Things are getting hot back there in the formicary. The Red Priests are getting dividends out of toting the Frog God around. Working on the hold this big bug had on . . . well, on their early ant civilizations."

Dr. Wise exclaimed, "In heaven's name, how old is the creature?"

"Search me. It could be hundreds of years old. Some of our own beasts get right behind a century or two."

The two boys exchanged dismayed looks.

"You don't mean they're taking us back to the city?" Jugs burst out.

"I ain't going, if that's so," Nugget growled. "Yeah, look, Prof. There's only two of them. I don't mean kill them, jess lay them out, sec?"

"No," Orcutt said, with such vehemence that they were startled. "Look old-timer, leave things as they are. They'll work out. Now be quiet, will you? I'm trying . . ."

They waited in anxious silence.

"We're staying here for the time being," the professor said presently. "Greenie's wanted back there someplace. Ior . . . Bracelet is standing guard over us."

Something in his voice made Dr. Wise glance at him sharply. He noticed that Orcutt avoided his eyes, and his pulses leaped. He said to himself, I believe the old man's got something up his sleeve.

Nugget was sulking. They could hear him muttering, "Yeah. So what? It's our chance, ain't it? Mamma, mamma!"

Jugs warned, "Don't forget what the prof told us, Nugget. They might pick up your thoughts."

"If they do they'll burn 'em," Nugget said. "You mind your own business, young Jay. Strike me fat!"

He spat disgustedly.

They watched Greenie until he disappeared into the opening of the lower tunnel.

Dr. Wise broke an uneasy silence to say, "You've a plan of your own, Orcutt?"

"Not mine," the professor said abruptly. "I . . . we're in the hands of Providence."

Bill said softly, "Here's Big Boy again."

They turned to see the Ant Woman coming from the shadows. As before, Bracelet went to meet her.

Although they could not have put it into words, there was a tenseness in the air which gripped them all, and held their maveling attention.

Only the professor understood. His mind was a jumble of sensations without meaning, but he was tasting once more that strange mental fragrance which had so deeply moved him earlier, and he did not doubt the outcome.

Dr. Wise whispered, "I don't understand this! They're going . . . they're leaving us! Orcutt . . ."

The professor swallowed hard. He said, "Maybe, she . . . I guess that's it, Wise. They're paying back a debt—giving us this one chance. It's up to us."

Nugget, staring, said, "I don't like it. I ain't going to let Bracelet and Big Boy take the rap."

"The Mantises got us," Professor Orcutt said.

"Strike me bandy!"

"They'll not come to any harm," the professor went on dreamily. "I guess I know. Yes, the Big Sticks got us. Wait!"

It was their last sight of the Ant Men.

Bracelet had vanished, but just for a moment Big Boy's slender figure stood outlined against the roseate curtain of the mist. Her antennae were lowered gently to reach toward them. It could have been a gesture of farewell. A moment, and she too was gone.

"What was she saying?" Jugs asked in a low voice.

The professor turned and looked at him. His face was sad.

"I don't know, Gray. My mind won't work any more . . . that way. Not ever. Wise?"

"Yes, I know. Every minute is precious. If we keep to the edge of the Lake cliffs . . . if the main tunnel is unguarded at this end . . ."

Nugget snapped, "Get your packs up, youse kids. Get a move on, will ter? Think we got all night?"

They obeyed silently, rightly interpreting the old-timer's snarl as a cover for his emotions.

They were ready to move when there happened one of those unforeseen things which, without seeming significance, are yet a trigger to release shattering consequences.

Instinctively they had paused to survey the terrain of the naphtha lake on the off chance that it was not now as deserted as they had reason to believe. And thus it was that they caught sight of a moving figure high above the ground mist and clinging to a wall ledge ringed with naphtha fires.

"It's a Big Stick!" Bill exclaimed.

Just for a second they feared it was a scout from the second party of the Mantises. Then something about the weaving figure gave them the truth of it. Here was a survivor who had cunningly feigned death and was now making his escape.

Nugget grunted, "Money for jam."

He sighted carefully and pulled the trigger.

It was a long shot, but nothing for a kangaroo-shooter of the old-timer's experience. The cranelike figure seemed to jerk upward, then buckled and fell. Flame sprang around it.

"Gone right into one of them fires," Nugget said. "Guess he was about soaked in bitumen. He's burning like a log."

He broke off sharply.

The Big Stick, its hold released, was slowly sliding down the face of a cliff, a faggot of orange flame. As its momentum gained it turned over and over like a gigantic Catherine wheel, shot into space and fell headlong into the gas-laden naphtha lake. They stood rooted in horror. And within seconds the lake surface exploded in one tremendous and instantaneous conflagration.

The impact of it was so great that they reeled. A furnace blast swept down the lake valley, tearing at their flesh and scorching their lungs. It was followed by an avalanche of thick oily smoke. They saw it coming and with one accord ran for the river. There was no question now of escape by the main tunnel. Their very lives were at stake.

Dr. Wise gasped, "The raft, Nugget . . ."

"This way," the old-timer called.

The two boys were helping the professor.

He stammered, "Never mind me . . . I'm done, I think."

His heavy pack was dragging him down. Jugs tore at the straps and it fell free.

"Stick it out, sir," he cried. "We're nearly there."

Relieved of the clogging weight, Orcutt struggled gamely on. Now they were in a pit of inky darkness, for the smoke was on them. The roaring of the naphtha lake shook the ground under their feet.

It was at this moment that there happened one of those chance encounters which, flashing into the context of tumultuous experience, give point and meaning to all

that has gone before. Shuddering through the roar of the flames came a succession of gobbling croaks that left no moment's doubt of their appalling origin. As they halted aghast at this new and formidable danger, they saw issuing from a gap some fifty yards to their left a great mound of spotted flesh, like some monstrous balloon. The glare picked out the huge protruding eyes set above two vast nostril slits, and the pulsing, bladder-like pouches on either side of the gaping mouth of the Frog God.

But they were able to give it only momentary attention, for now, streaming in the creature's wake, came a medley of furiously fighting Ant Men. The red gleams, mingling with the black, told their own story. The Red Priests had been driven into the open by the resurgent greens and blacks and it was apparent that they were in desperate straits. Above the hissing of the acid jets came the bellowing of the great batrachian, as it rolled hideously from side to side. Even as they watched, a single sharp whipcrack cut through the uproar. On the instant, a score of silver-gleaming acid streams concentrated on the Frog God. It gave a single hideous bellow, then seemed literally to melt into a heaving black pool.

With that, the spell broke, and the humans found their wits again.

"Hand chain!" Nugget roared. "Hold together."

Groping, they came to the water's edge. The surge of the river leaped at them.

"Our only hope is downstream," Dr. Wise called.

Jugs said, "The live crater, sir . . ."

"We've no choice. Are you all right, Orcutt?"

"Yes, but my pack! All my records are gone!"

There was despair in his voice.

"Stick tight," Nugget bellowed. "She's free! Down on your faces."

The raft, clear of its moorings, was spinning madly.

It tilted and came down with a smash that brought a wave of water over their clinging bodies. Giant hands plucked at them. And suddenly they were in midstream and tossing in the full current of the unseen river.

In those first dreadful moments they gave themselves up for lost. Jugs, recalling his previous experience, felt his flesh crawling. He knew that somewhere ahead were steep falls and a core of crater fire, into which the river plunged through a curtain of scalding steam.

He felt Bill's hand moving, and caught it. Very faintly he heard, "Hi, Aussie."

He grinned with stiff lips.

"Hi, Pommy! How's yourself?"

Nugget's voice came.

"The smoke's breaking . . ."

Suddenly the valley of the river was lit with a white-hot glare. Far downstream they saw a white line of spray. Jugs knew it for the boil of the rapids. They were breathing more easily now, and their sight was clearing.

They began to shout at each other.

"Sure the river empties into the crater, Gray?"

"It looked like it, sir, but I only got a glimpse."

"Stone the bandy crows! You okay, Prof?"

"Sure, old-timer. What's up, Wise?"

Dr. Wise yelled, "Merciful heaven! Look!"

He was pointing upstream.

"Mamma, mamma!"

Crowding from the passages that honeycombed the river approaches were scores of giant Mantises, driven into the open by the inferno of heat. It was plain to see that the great creatures were mad with fear. The air was all at once shaking with their hootings and clackings, as they lumbered from cover. They began to plunge into the river. The water was soon alive with tossing yellow bodies.

But a more dreadful sight awaited the little party of

humans. All of a sudden, long green logs mingled with the yellow ones, and the surface of the water heaved in furious combat.

"Crocs, by glory!" Nugget snarled.

Dr. Wise yelled, "Hold fast! Hold fast!"

The white spume of the rapids rose to meet them. The raft seemed to hurl itself forward and upward, then dived sickeningly. Water deluged.

"This is it," Jugs said.

His lungs were on the point of bursting when the raft righted itself and they surfaced again. There was a thankful counting of heads.

Professor Orcutt panted, "We must be all right. Look, Wise, there's radioactivity in these walls."

In the stress of the past minutes they did not until then notice that the drop at the rapids, and an evident turn of the river, now completely cut off the glare from the burning lake. They were in a misty twilight very similar to that of the formicary tunnels, but obviously of a different nature. The speed of the raft was, they thought, increasing. But the water was much calmer and they could hear each other more easily. Of the Big Sticks and the crocodiles there was no sign.

Chapter 20 *Space-Time Reverses*

IT SEEMED too that the roof of the river cavern had lifted, while the sides had narrowed. They had remarked, before the plunge over the rapids, that the water was rapidly becoming hot. They agreed now that although Jugs' belief in an underwater active volcano could be right, it was plain the river did not empty into it, as he had feared. At any rate, the water was markedly cooler, as was the air.

"Yet," Orcutt said, "it must go someplace."

Nugget said, "Too right, Prof. Yeah, well, them Big Sticks is gone. We're lucky to be alive."

"It's like a big drain," Bill said, his eyes on the narrowing walls.

"Formicary reticulation system," Jugs cracked.

"This here's no place to be funny," Nugget growled. "We ain't in the clear yet."

Dr. Wise had taken his night glasses from their waterproof case. He trained them on the dark, spinning rope of the water ahead. His lips were tightly compressed.

"I don't like this, Orcutt."

The professor shook his soaking body.

"You wouldn't be kidding, would you? Like it! I'd certainly be glad to get a sniff of the desert pans again."

"I don't mean that, exactly. It looks to me as if the river is running clean into a rock face. Hear that?"

A new sound—rather, two sounds—crept on them. The first was a deep rumbling that came at intervals. The second was steady and continuous. It reminded them of an enormous suction.

Now they could all make out a fresh curtain of spray leaping above the spot where, as Dr. Wise had said, the river seemed to end at a blank wall. On the right bank a split in the wall opened to a kind of beach. Dr. Wise was just able to pick out a white gleam of sand and rubble.

Suddenly there came to him a conviction of imminent danger. He knew it called for urgent and instant action.

"Nugget?"

"Yeah, Doc?"

"There are oars, or sweeps, tied to the flooring. I felt them a long time ago. There's a beach ahead of us. I've a feeling that we must make a landing there, at all costs. Can you get them free?"

The boys helped Nugget.

"But can we use them, sir?"

"We must try. If we can pole out of the main current . . . the water's far less rough than it was."

Bill said, "Let me . . ."

"My turn," Jugs refused. "You got first shot at the rock climb. I know how to pole."

"Hurry," Dr. Wise said.

They were surprised to see Professor Orcutt struggling to his feet.

"You and I together, Gray. I know something about using a pole too. What is it, Wise?"

"The river goes straight down into a blank face," Dr. Wise told them. "We've just time, I think, to get to that beach."

On the river above the rapids they would have had no chance of success, but here they managed it with astonishing speed and ease. A bare hundred yards ahead

the water piled itself up in thunderous maelstrom ere it was sucked into the vent in the river bed. How large that vent was they could not guess, but it was plain that the water must completely choke it.

"Mamma, mamma!" Nugget groaned. "We don't seem to be getting no place, all the same."

Bruised and breathless, they stretched out on the shingle.

Professor Orcutt, who had made a remarkable recovery, was the first to rouse.

He said, "It hurts losing my pack, but I'm still alive and kicking. I owe that to you boys. Thanks a lot."

"Aw, think nothing of it, sir," Jugs said awkwardly. "I'm sorry, though, about your lost notes."

"I still have mine," Dr. Wise said quietly. "They're at your service, Orcutt."

"Yes, I know. You're good men, all of you. It won't matter so much after all, for I've a pretty fair memory. And, anyhow, the boys back home will say I'm just trying out a big stunt."

"They better not get too funny when I'm around," Nugget said.

The professor gave his old cheerful grin.

"Thanks, old-timer. Boys, we'll get out of this yet, or I miss my guess."

Bill reported, "My ammo's all right, I think. And the rifles ought to dry out in no time. These naphtha candles, Prof?"

"Wet won't hurt them. Try one, Carey."

The sliver ignited readily.

Dr. Wise took it from him and held it aloft.

Behind them was solid rock, but downstream the narrow shingle beach gave place to a wide fissure. Dr. Wise walked toward it for a closer examination. They heard him exclaim sharply.

"Orcutt! There's a draft coming down here."

The torch flame was bending.

They went excitedly to join him.

"True enough," the professor said. His eyes gleamed with excitement. He sniffed hugely. "That's outside air."

"Boy, oh, boy!" Jugs breathed.

Nugget's tough face was a picture.

"Yeah. What's the fuss? Didn't I say if youse stuck around with me you had nothing to worry about."

He slapped his wet, ragged shirt and stared at them importantly.

"One time I was prospecting fer gold up in the Kimberleys. I disremember just what year it was, but . . ."

"Hold it," Jugs said quietly. "The Big Sticks have showed up."

They whirled to see a dozen or more scaly yellow bodies flailing the water some twenty yards back. The foremost, sighting the shingle beach, were already heading for it.

Bill's gun was at his shoulder when Dr. Wise gripped him.

"Too close quarters, Carey. And there's a bare chance they haven't seen us."

"That's so," Orcutt snapped. "Get ahead with the torch, Wise. Migosh! I wish I was younger."

The fissure turned and twisted, but held to its width.

Bill gasped, "If this lets us out, the Big Sticks can follow."

"Save your wind, young Double-you," Nugget growled at his back. "Double up, youse kids. I can hear those darned insecks . . ."

The hideous hooting they had learned to dread was in their ears.

"Smelled us out, I guess," the professor panted.

He stumbled on determinedly.

The draft was stronger now. It brought a tang of burning sands and alkali. They thought it the sweetest

smell they had ever known. They strained their smarting eyes ahead.

And suddenly a streak of blue sky showed. The tumbled rocks about them grew clearer. It was like the coming of dawn.

Nugget shouted, "Get a move on. They're right on my tail."

He must have halted a moment, for they heard the crack of his rifle. He fired three times in rapid succession.

"Halted 'em a bit," he called, as he caught up again. The way seemed endless.

Dr. Wise had dropped his torch and was climbing a last heap of rubble.

"Boys!" the professor appealed comically.

They hauled and tugged him clear.

Nugget came up with a rush. His fingers tore at his pack.

"Youse kids . . . run this fuse out, young Jay. Get the rest of the stuff out in the clear. Stand by with your gun, young Double-you. Mamma, mamma!"

He went to work with the practiced cunning of the old miner. He packed the explosive taken from the tin in his rucksack, calmly biting the caps to grip the fuse.

Bill called, "Something's happening back down the tunnel."

"The Big Sticks," Nugget panted.

They could hear the hooting and clacking of the pursuing Mantises. But beyond again was a new sound. It was like the faraway echo of an express train.

The others, in an agony of apprehension, had returned. Jugs was in time to sight a Big Stick appearing around an angle of the tunnel. It set up a furious clacking, and a stream of poisoned saliva shot within feet of them. Jugs shot it through its thrusting triangular head.

The walls of the tunnel were shaking. A cloud of

naphtha smoke blinded and almost choked them. In the stress of it Nugget lost his fuse and groped blindly.

"Mamma, mamma!"

His cry was lost in a sudden obscuring orgasm of sound. The ground at their feet lifted. Flame of such brilliance that it seemed to light up their very nerve cells wrapped them for an instant of agonized wonder. Dimly they heard the culminating thunder as the overtaking naphtha gases reached their disintegrating climax.

And again—nothingness.

They were sprawled in the attitudes of men stirring out of long sleep. They stared at each other through red-rimmed eyes—a ragged company worn almost to the limits of physical endurance, bewildered, unbelieving.

Jugs whispered, "But this is the place where we were hit by the lightning. It's exactly as it was, except that the utility isn't here."

Nugget had his head in his hands. He kept saying over and over, "Mamma, mamma!" He looked as if he was going to be sick.

Professor Orcutt shook his tattered shoulders. His bushy eyebrows rose and fell. He spread out his hands in a bewildered gesture.

There seemed nothing to say. Afterward, perhaps, when they were better able to sort out the figments of what stood now for some unimaginable dream—a dream that was reflected in the eyes of them all as they looked at each other.

A dream! Yet—where was the utility truck? If not a dream, what?

Nugget got to his feet.

He croaked, "We'd better make for Cache 5. It's only a mile or two back."

The declining sun was already touching the rim of the western horizon. The ranges rose tier upon tier, their

peaks touched with golden radiance. At that hour the desert was incredibly beautiful. It held the mystic quality of a mirage. The red and yellow pans were splashed with purple shadow, and the rock ribs that lifted themselves from the sprawling sand benches dripped with rainbow colors.

Nugget said, "I kinder liked Bracelet . . ." Then his voice trailed off, as though he wasn't sure of what he was saying.

"You'd better lead the way, Nugget," Dr. Wise said huskily.

They moved off with dragging feet.

Professor Orcutt held to the rear. From time to time he shook his great head. It had been real. Yes, it had been real. No use trying now for an explanation. It wasn't sane. And yet . . .

His ever-curious mind found itself pondering anew. He began to wonder if Dr. Wise had noticed the extraordinary group of the slime molds down there by the lost river. The filtering molds. Now, what was the generic name for the things? *Mucorini*, wasn't it?

He said to himself, with astonishment: "It *did* happen, by glory! Well, snap out of it, Silas. You've got an almighty lot of thinking to do presently."

He gave a tired grin and plodded on after his companions.